THE REPORT

OF THE

PRESIDENT

OF

QUEEN'S COLLEGE, GALWAY,

FOR

THE SESSION 1877-78.

Presented to both Houses of Parliament by Command of Her Majesty.

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THE REPORT

OF THE

PRESIDENT OF QUEEN'S COLLEGE, GALWAY,

FOR

THE SESSION 1877–78.

TO THE QUEEN'S MOST EXCELLENT MAJESTY.

MAY IT PLEASE YOUR MAJESTY,

In accordance with the provisions of the Act of Parliament founding the Queen's Colleges, I have the honour of submitting to your Majesty the following Report of the Proceedings and Condition of the Queen's College, Galway, for the Session 1877–78.

In my Report for the Session 1876-7 I was enabled to state that the number of Students attending Lectures during the Session was the largest since the opening of the College:—it amounted to 174; the number for the present Session stands at 175. During the three last Sessions a slow but steady progress was going on:—the Students in 1874–5 numbering 155; in 1875–6, 167; in 1876–7, 174; and I have no doubt that I should have had to report a considerable increase in 1877–8 were it not for certain exceptional difficulties with which, at the commencement of the Academic year, the College had to contend. And I may here be permitted to suggest that, in order to estimate justly the condition and progress of the College from the number of Students on the Rolls, it should be borne in mind that daily attendance on Lectures is stringently enforced in all the departments of the Queen's Colleges. This rule, which imposes on the great majority of the Students of this College the expense and other inconveniences of residing at a distance from home through a great part of each year, must tend in the case of Colleges that are mainly recruited from the middle classes, and where, moreover, no facilities for residence have been provided, to depress the numbers. The obstacle to progress arising from this cause may be expected to diminish with the advance of the community in wealth.

In the following Tables (Numbers I. and II.) will be found a statement of the Numbers and Religious Persuasions of the Students who have entered this College and attended the Lectures therein during each Session since its opening:—

[TABLE

A 2

I.—Numbers and Religious Persuasions of Students* who have entered the Queen's College, Galway, in each year from its opening.

Session.	Matriculated Students.	Non-Matriculated Students.	Total.	Members of Church of Ireland.	Roman Catholics.	Presbyterians.	Wesleyan Methodists.	Independents.	Various.	Total.
1849–50, . .	64	4	60	24	38	6	–	–	–	68
1850–51, . .	23	3	26	10	9	7	–	–	–	26
1851–52, . .	31	5	36	13	21	2	–	–	–	36
1852–53, . .	21	2	23	8	12	3	–	–	–	23
1853–54, . .	25	5	30	12	15	3	–	–	–	30
1054–55, . .	26	15	41	18	10	8	2	–	–	41
1855–55, . .	32	7	39	14	15	8	1	1	–	39
1056–57, . .	35	8	43	15	22	3	1	1	1	43
1857–58, . .	36	7	43	16	17	9	–	1	–	43
1858–59, . .	44	4	48	20	19	7	2	–	–	40
1859–60, . .	35	5	40	12	25	1	–	1	1	40
1860–61, . .	†59	1	60	13	33	12	2	–	–	50
1061–62, . .	§59	3	62	21	35	6	–	–	–	62
1862–63, . .	60	4	64	18	27	16	1	–	2	64
1863–64, . .	54	5	59	20	21	11	2	4	1	59
1864–65, . .	58	12	70	26	28	13	·	2	1	70
1885–66, . .	46	3	49	16	19	10	3	–	1	49
1866–67, . .	42	2	44	14	18	7	3	2	–	44
1867–68, . .	§44	3	47	14	20	11	2	–	–	47
1868–69, . .	‡56	4	60	20	24	15	1	–	–	60
1069–70, . .	49	5	54	20	25	6	2	–	1	54
1870–71, . .	52	6	58	22	23	12	–	1	–	58
1871–72 . .	‡64	1	65	19	31	11	3	1	–	65
1872–73, . .	55	4	59	17	24	14	1	2	1	59
1873–74, . .	‡80	3	83	27	31	21	3	1	–	83
1874–75, . .	67	7	74	24	35	14	1	–	–	74
1875–76, . .	§81	10	91	21	35	31	3	1	–	91
1875–77, . .	‡81	4	85	26	34	21	3	–	1	85
1877–78, . .	67	6	73	18	23	29	3	–	–	73
Total, . .	1,446	148	1,594	518	697	312	39	18	10	1,594

* With regard to religious denominations, I have classified the Students as they designate themselves in the forms filled up at entrance.

† Including three who had previously been in attendance as non-matriculated students.

‡ Including two who had previously been in attendance as non-matriculated students.

§ Including one who had previously been in attendance as a non-matriculated student.

II.—Numbers and Religious Persuasions of Students attending Lectures in the Queen's College, Galway, in each Session from its opening.

Session.	Matriculated Students.	Non-Matriculated Students.	Total.	Members of Church of Ireland.	Roman Catholics.	Presbyterians.	Wesleyan Methodists.	Independents.	Various.	Total.
1849–60, . .	64	4	68	24	38	6	–	–	–	68
1850–51, . .	60	3	63	22	28	13	–	–	–	63
1051–52, . .	68	6	73	25	41	7	–	–	–	73
1852–53, . .	73	2	75	26	40	9	–	–	–	75
1853–54, . .	76	5	81	30	42	9	–	–	–	81
1854–55, . .	69	16	85	32	46	5	2	–	–	85
1855–56, . .	70	9	87	26	42	14	3	2	–	87
1856–57, . .	88	8	96	80	49	10	3	3	1	98
1857–58, . .	92	8	100	31	47	16	3	2	1	100
1058–59, . .	113	9	122	37	64	15	4	1	1	122
1859–60, . .	111	7	118	31	69	11	2	2	3	118
1060–61, . .	141	3	144	33	85	19	3	2	2	144
1881–62, . .	140	5	153	39	91	19	3	1	–	153
1862–63, . .	161	4	166	33	95	32	2	–	3	165
1063–64, . .	160	5	165	41	91	25	3	4	1	165
1864–65, . .	157	12	169	50	78	31	2	6	2	169
1865–66, . .	139	5	144	33	71	29	4	4	3	144
1866–67, . .	133	2	136	36	62	27	4	5	1	135
1867–88, . .	124	3	127	34	64	32	3	4	–	127
1068–69, . .	146	4	160	47	63	34	2	4	–	150
1869–70, . .	130	0	138	42	66	24	2	3	1	138
1870–71, . .	116	8	123	37	62	20	–	4	–	123
1871–72, . .	139	2	141	31	79	25	4	2	–	141
1872–73, . .	135	3	138	28	68	35	3	3	1	138
1873–74, . .	152	4	156	35	77	38	6	1	–	156
1074–75, . .	149	6	156	37	71	40	4	3	–	155
1875–76, . .	156	11	167	28	82	60	3	4	–	167
1876–77, . .	165	9	174	26	89	63	4	2	–	174
1877–78, . .	166	9	175	36	73	61	5	–	–	175

MATRICULATION EXAMINATION, NUMBER OF ENTRANCES FOR SESSION, 1877–8.

The General Examination for Entrance was held on the 20th of October, and a Supplementary Examination on the 16th of November. Of the Candidates who presented themselves 66 passed; there also entered, for the first time, 6 Non-Matriculated students, making the total number 73, who were thus divided according to Religious denominations:—

Members of Church of Ireland,	18
Roman Catholics,	23
Presbyterians,	29
Wesleyan Methodists,	3
	73†

DISTRIBUTION OF ALL THE STUDENTS OF THE VARIOUS RELIGIOUS DENOMINATIONS, ATTENDING THE COLLEGE DURING THE SESSION 1877–78, AMONG THE SEVERAL FACULTIES:—

	Church of Ireland.	Roman Catholics.	Presbyterians.	Other Denominations.	Total.
Faculty of Arts,	8	15	26	–	49
„ Law,	1	–	4	–	5
„ Medicine,	27	52	31	4	114
Department of Engineering,	2	6	2	1	11
Occasional Students,	–	2	–	–	2
	38	75	63	5	181
Deduct, attending in two Faculties,	2	2	2	–	6
Total of separate individuals,	36	73	61	5	175

It will be observed on reference to the preceding tables that the number of Students attending Lectures during the past Session was the largest since the opening of the College. It will be further seen that the system of United Education has been really carried out in the College; and that the numbers of Students continue to represent, in fair proportion, those classes of the several persuasions who seek for collegiate education. It is gratifying to be able to add that, since the opening of the College, not a single circumstance has occurred to interrupt the harmony, which has subsisted among the Students of the several denominations.

The following Tables (III. and IV.), give the number of Students attending the different Classes, and the number of Lectures delivered by each Professor since the opening of the College. The latter table attests the zeal with which the Professors have discharged their duties; and in the Reports of the Professors, given elsewhere (Appendix B) it will be seen that their efforts have been worthily met and responded to by the students.

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† See note * at foot of page 4.

III.—Return showing the Number of Students attending the Lectures of each Professor, in each year since the opening of the College.

—	1849-50.	1850-51.	1851-52.	1852-53.	1853-54	1854-55.	1855-56.	1856-57	1857-58.	1858-59.	1859-60.	1860-61	1861-62.	1862-63	1863-64.	1864-65.	1865-66.	1866-67.	1867-68.	1868-69.	1869-70.	1870-71.	1871-72.	1872-73.	1873-74.	1874-75	1875-76	1876-77	1877-78.
Greek, ...	50	31	24	19	24	21	21	23	21	23	24	24	36	36	35	39	34	24	25	23	23	20	27	29	36	23	23	24	25
Latin, ...	50	27	24	23	21	19	20	23	21	22	26	24	26	35	36	32	33	29	23	27	27	22	28	26	36	32	27	27	29
Mathematics, . .	54	38	23	26	27	28	25	34	34	42	35	42	48	32	41	43	40	37	27	39	30	32	36	26	44	33	38	35	32
English, &c., . .	47	46	28	25	23	22	22	27	20	31	22	29	24	36	39	30	22	23	22	24	26	24	26	27	36	36	30	28	26
Modern Languages, .	54	23	23	19	25	37	29	64	30	38	52	70	77	76	71	78	72	66	60	65	64	57	66	67	34	80	84	78	89
Celtic Languages, . .	—	3	2	2	—	—	—	—	3	—	3	6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Natural Philosophy, .	8	11	23	19	27	28	21	27	29	38	33	70	57	67	62	63	54	49	50	38	54	46	64	58	61	71	71	65	79
Natural History, . .	8	26	25	21	32	25	30	30	32	37	37	39	32	66	29	38	32	27	34	27	28	29	39	40	37	43	45	50	62
Logic and Metaphysics, .	—	20	17	14	14	14	13	14	16	16	17	19	21	23	25	30	20	16	23	17	21	14	22	23	15	24	19	13	15
Chemistry, . . .	15	25	36	29	27	28	20	40	40	49	53	60	57	45	52	52	44	48	46	51	50	49	55	52	61	67	74	63	77
Mineralogy and Geology.	—	4	14	15	10	14	10	6	16	16	17	—	6	16	5	6	6	7	4	6	6	2	8	6	2	4	3	4	6
Engineering, . .	2	10	11	13	10	11	9	10	15	18	12	21	10	21	17	16	17	17	13	15	16	12	10	8	10	10	10	11	10
Agriculture, . . .	4	5	5	8	6	6	7	11	14	7	7	6	8	5	2	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Anatomy and Physiology,	10	6	5	15	16	13	22	35	36	47	52	71	68	65	56	54	55	53	64	65	59	57	73	67	76	72	66	96	100
Materia Medica & Medical Jurisprudence, .	—	6	9	11	10	7	8	17	13	24	20	26	54	28	32	28	18	30	20	32	28	27	29	28	31	32	41	42	36
Surgery, . . .	—	—	5	12	7	7	6	13	18	16	20	19	33	27	26	28	24	12	19	21	18	13	21	19	21	19	22	15	20
Midwifery, . . .	—	—	4	7	4	—	4	3	11	6	11	12	14	17	12	14	14	8	8	9	8	10	15	9	17	12	12	14	16
Medicine, . . .	—	—	—	4	4	2	6	6	7	7	6	8	18	21	26	19	15	10	15	14	14	12	16	16	21	13	13	12	16
English Law, .	4	4	5	6	6	7	5	4	3	7	7	4	7	7	7	8	5	7	6	12	12	13	13	12	9	9	5	3	5
Jurisprudence and Political Economy, .	—	4	12	13	16	10	8	9	7	17	13	16	5	9	8	8	10	12	14	15	11	18	12	6	8	9	6	5	6

IV.—RETURN of the NUMBER of LECTURES delivered by each Professor in each Session since the opening of the College.

—	1849–50.	1850–51.	1851–52.	1852–53.	1853–54.	1854–55.	1855–56.	1856–57.	1857–58.	1858–59.	1859–60.	1860–61.	1861–62.	1862–63.	1863–64.	1864–65.	1865–66.	1866–67.	1867–68.	1868–69.	1869–70.	1870–71.	1871–72.	1872–73.	1873–74.	1874–75.	1875–76.	1876–77.	1877–78.
Greek,	265	254	218	224	248	249	217	262	223	246	216	229	*315	280	255	255	247	274	240	249	257	263	246	237	258	230	265	192	250
Latin,	270	252	212	238	233	180	217	244	195	169	132	196	161	263	228	237	256	248	224	209	267	239	248	160	228	259	255	185	254
Mathematics,	221	255	230	157	164	211	161	†136	†234	†238	†209	210	†215	†199	†199	†213	†193	†212	177	206	†209	214	†200	†211	†205	†200	208	†193	206
English, &c.,	37	28	77	97	128	128	127	107	160	92	97	78	16	160	147	145	136	155	156	132	120	139	140	134	133	149	149	126	147
Modern Languages,	212	249	207	175	155	160	155	†162	†154	†151	†169	†246	†244	†229	†284	256	†269	†165	†272	†252	†237	230	310	338	227	267	292	313	251
Celtic Languages,	–	90	65	30	–	–	–	‡3	48	–	30	24	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Natural Philosophy,	68	154	120	207	189	173	225	174	173	192	172	213	186	211	203	229	255	293	257	253	235	262	253	248	235	259	272	264	230
Natural History,	–	120	35	92	55	75	68	68	87	77	75	56	57	62	70	82	77	70	60	80	104	101	103	101	107	104	51	104	93
Logic and Metaphysics,	–	40	114	159	123	141	138	162	106	109	170	165	132	192	146	157	139	172	171	141	121	136	129	141	86	134	141	125	91
Chemistry,	32	111	128	140	113	123	97	101	107	68	100	95	91	95	89	67	102	94	97	91	103	94	83	110	54	112	120	128	126
Mineralogy and Geology,	–	51	45	57	51	30	45	49	60	64	64	§–	61	43	66	56	58	63	60	51	51	57	57	61	52	56	46	61	52
Engineering,	9	116	165	87	30	76	119	111	122	126	61	162	183	241	211	249	228	237	258	229	262	246	256	234	240	201	236	211	246
Agriculture,	–	108	112	160	144	160	162	174	123	154	182	53	56	54	28	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Anatomy and Physiology,	111	112	111	108	180	115	104	103	102	104	‖116	‖166	‖190	‖154	‖105	‖118	‖166	‖137	‖116	‖117	‖121	126	121	160	170	176	169	161	164
Materia Medica & Medical Jurisprudence,	–	51	60	60	95	93	95	96	90	90	77	38	78	88	66	64	54	61	72	77	76	78	61	80	66	70	78	63	74
Surgery,	–	–	51	62	52	61	62	60	53	59	60	55	60	60	50	49	56	61	54	50	58	54	49	47	48	46	48	48	51
Midwifery,	–	–	53	70	62	–	62	61	60	59	54	81	60	51	54	51	51	55	53	57	55	56	50	64	37	35	–	46	50
Medicine,	–	–	–	64	62	61	62	60	60	56	62	55	49	50	50	49	31	54	55	50	45	48	47	44	36	38	49	40	52
English Law,	16	45	55	87	71	72	72	40	35	48	49	72	68	64	66	60	36	61	77	75	80	75	63	77	77	50	46	32	50
Jurisprudence and Political Economy,	20	48	69	96	105	95	60	52	51	97	49	81	60	67	83	70	53	73	85	78	68	100	62	71	92	60	69	81	73

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* Exclusive of 72 lectures to extra classes.
† Exclusive of a Course of Lectures given by the Senior Scholar.
‡ These Lectures were open to the Public.
§ Owing to an alteration in the Ordinances of the University, no Lectures on Mineralogy and Geology were delivered this Session.
‖ [illegible]

QUEEN'S UNIVERSITY EXAMINATIONS.*

The following table gives the number of Students of this College who passed the Examinations of their Standing and Faculty, and obtained Degrees, &c., at the October and June commencements, 1877–78:—†

		M.A.			B.A.	First Examination.	
Faculty of Arts,		2			9	9	
		LL.D.			LL.B.		
Faculty of Law,		1			2		
	M.D., M.Ch., and Dip'oma in Midwifery.	M.D., and M.Ch.	M.Ch., and Diploma in Midwifery.‡	M.D. (only).	Second Examination.	First and Second Examination.	First Examination.
Faculty of Medicine,	1	8	1	3	22	8	38
		B.E.			First Examination.		
Department of Engineering,		2			3		

Of the Masters in Arts—

1 Obtained First Class Honors in Experimental Science.
1 Ditto, in Experimental Science, and Second Class in Mathematical Science.
—
2

Of the Bachelors in Arts—

2 Obtained First Class Honors in Experimental Science.
1 " First Class Honors in Biological Science.
1 Obtained Second Class Honors in Biological Science.
1 Obtained Second Class in English, Metaphysics, and Political Economy.
1 Obtained Second Class in English, History, and Logic.
3 Classed in the Upper and Lower Pass Divisions.
—
9

Of those who passed the First University Examination in Arts—

1 Obtained First Class Honors, and was awarded a Peel Exhibition of £20 a year for three years.
1 " Second Class Honors.
2 Were Classed in the Upper Pass Division.
5 " Unclassed.
—
9

Of the Doctors in Medicine—

1 Obtained First Class Honors.
11 Were Classed in the Lower Pass Division.
—
12

Of those who passed the Second University Examination in Medicine—

2 Obtained First Class Honors.
23 Were Classed in the Upper and Lower Divisions.
—
25

Of those who passed the First University Examination in Medicine—

1 Was placed in the Upper Pass Division.
40 Were placed in the Lower Pass Division
—
41

In the Engineering Department—

1 Obtained First Class Honors with the Degree of B.E.
1 " Second Class Honors with the Degree of B.E.
1 " Second Class Honors at First University Examination.
1 " Upper Pass Division at First University Examination.
1 " Lower Pass Division at First University Examination.

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* At the University Examinations, both Pass and Honor, the Students of the three Queen's Colleges are examined conjointly.

† Three of the Students included in this Table received part of their education in Queen's College, Belfast, and two in Queen's College, Cork, having taken the degree of M.D. in June, 1877.

‡ Having taken the degree of M.D. in June, 1877.

CONDUCT AND DISCIPLINE OF STUDENTS.

In the Reports of the Deans of Residences will be found satisfactory evidence of the conduct of the Students. And I beg to express to your Majesty the gratitude that is due to those Reverend gentlemen for the disinterested zeal with which they have discharged the functions assigned to them by Charter. By their watchful care of the young men who come under their supervision at the critical period of their career when the comparative freedom of College life takes the place of the guarded security of home, they have given confidence to parents, and have strengthened the discipline and advanced the popularity of the College. And I beg to add my own full agreement in the opinion the Deans have expressed—that the conduct of the Students has been most creditable to themselves, and decisive as to the beneficial influence of the Academic system on the habits of the young men subjected to its rules. I can testify that very many of our Students practise exemplary self-denial and submit even to great privations, inspired by a generous ardour for knowledge and a resolute determination to avail themselves to the utmost of the opportunities offered to them for obtaining a liberal education.

EDUCATIONAL SYSTEM OF THE QUEEN'S COLLEGES.

It will not be out of place on this occasion to advert in some detail to the System of Education established in the Queen's Colleges. I think it will be found that, in the various branches comprised within the curriculum, it approaches very near to all that is demanded by the advancing spirit of the age for a general scheme of University studies; that it requires no ordinary or superficial application, but is well calculated to advance the learning, stimulate the industry, and develop the mental faculties of the Students. The Queen's University and Colleges feel that they are discharging an important trust; they rest their claims to public confidence on the fact that they impart an education at once liberal, practical, and adapted to the circumstances of the country; and by their organized system of Lectures and Examinations they aim at keeping faith, if I may so speak, with the world, and are careful to give no man an authentication of learning on a shallow and unsound probation. I shall direct my remarks mainly to the Arts' curriculum, both because that department lays the foundation on which the various Professional studies may be approached most effectively and in a liberal spirit, and also because on some recent occasions, with the view of disparaging the work done and the education given by the Colleges, attention has been directed to the number of Students attending in the Faculty of Arts. But education in Arts ought not in fairness to be confined to what was considered an Arts' education in the older Universities:—Modern Languages, Chemistry, Natural Philosophy, the English Language, History, English Literature, Zoology, and Botany, are also included in the Arts' curriculum of the Queen's Colleges. These courses of instruction do not the less contribute to a liberal education, because many of those who attend them are the Students in the Faculty of Law, or of Medicine, or in the Department of Civil Engineering; and, as a matter of fact, four of the Chairs which are described as in the Faculty of Arts are more largely employed in carrying on the teaching of the Medical School.

The Student intending to proceed to the Degree of B.A. in the Queen's University must in the first instance pass a Matriculation Examination in one of the Queen's Colleges. The Examination in this College includes English Grammar and Composition, Outlines of Grecian and Roman History and of Ancient and Modern Geography, Two Books of Euclid, and the fundamental rules of Arithmetic and Algebra. He must afterwards pursue a defined course of education, during Three Sessions in one or other of the Colleges. During the first Session every Arts' Student is required to attend courses of Lectures in the following subjects:—English Language, Greek, Latin, a Modern Continental Language, and Mathematics; in all of which a Class Examination must be passed before the Student may attain to the standing of the Second Year. During the Second Session Logic and Natural Philosophy must be studied along with a second advanced course in any two of the subjects of the First Year's study which the Student may select. This year also a Class Examination must be passed in the four subjects attended by the Student. And, in addition to this, a *University* Examination, which is known to be of an extremely stringent nature, must be passed in Greek, Latin, a Modern Continental Language, Natural Philosophy, and Mathematics (Logic being also imposed as a condition for Honors) before the candidate may become a properly qualified Student of the Third Year, and may take advantage of the privilege, almost universally accorded to matured tastes and habits, of arranging his studies, according to the particular bent of his mind, or his future views in life. Seven new courses of study—embracing English Literature, History, Metaphysics, Political Economy, Chemistry, Zoology, and Botany—are prescribed to Students of the Third Year. Every candidate for the Degree of B.A. must study four distinct subjects during his Third Session. Two out of these four must be selected from the seven previously mentioned subjects; and, as a matter of fact, very often three, or even the whole four, are selected from the same list. The Student may, however, under certain conditions, take up for attendance, during this Session, one or two of the courses previously studied by him. But, in all cases, the Third Year Class Examination, and afterwards the Degree Examination, must be passed by the Candidate in the four selected subjects. Such are the regulations for a Pass Degree. With regard to the candidates for Honors, the rules, as far as concerns the number of compulsory subjects, are precisely the same until the last Class Examination has been passed. But, after this, he is expected to concentrate his whole attention on two or three of the subjects studied during his last Session, and by attaining a high scale of proficiency in these he may graduate with Honors. From what I have said it will be seen that it is a mistake to determine the amount and character of the instruction given during the Undergraduate course by the extent and character of the Degree Examination. Before obtaining an Arts' Degree, every Student must have attended on, and passed testing Examinations in, nine distinct courses of study; while only four of these can possibly be represented by the Degree Examination; and two even of these four have only been studied during one Collegiate Session. In practice, however, it will generally be found that instruction has been received and examinations have been passed in ten or eleven courses of useful and refining information.

THE MEDICAL SCHOOL.

I feel bound to express my satisfaction at the progress of the Medical School. During the Session, 114 Students attended Lectures in the Faculty; being the largest number since the foundation of the College. The Medical School, it should be remembered, has been created by the College; no such institution had previously existed in the Western Province; and the numbers of the Students have increased with a steadiness that gives evidence of a vitality and progress which must strike as remarkable every one who is acquainted with the neighbourhood of Galway, and considers how unpropitious a locality it must be for founding and maintaining a Medical School. It will be seen from the Report of the Clinical Lecturers (given in Appendix B.) that additional facilities, especially for Hospital instruction, are urgently required; and on the success of their department may well be founded a claim for the favourable consideration of their statement.

I would here take the liberty of repeating some observations I felt called on to make in my last Report:—

"The remarkable progress of the Medical School is sometimes made a ground for disputing the success of the College; it is dogmatically asserted that Universities ought not to be places for professional instruction, and that, however numerous students for professions may be, the success of Colleges should not be measured by them, but only by such students as pass through the curriculum of the Faculty of Arts. But, without appealing to the original constitution of Universities, or discussing on general principles the claims of Medical studies to take co-ordinate rank with other branches of learning in a University system, it may be observed that in the present social condition of Ireland, and in the case of Colleges which are mainly recruited from the middle and professional classes, it is what might naturally be expected that the Faculty of Medicine should be considered of no less importance than that of Arts, and that it should attract to itself a large proportion of the students of the Colleges. Many students cannot afford to spend their time up to twenty-one or twenty-two years of age in the study for a preparatory degree which is to be the mere foundation-stone of their professional edifice; and I believe it will be generally found that, owing to the constant demand for the services of Medical men and the comparative certainty of immediate employment which the profession holds out, Students of Medicine far out-number Students in Arts in Colleges circumstanced as the Queen's Colleges are. It was the original function of Universities—never, I trust, to become antiquated—to act as the instructors of all who have occasion for learning, and not merely of the wealthier classes of the community; and Universities must adjust their arrangements to the changed requirements of society, else they will see the modern stream of thought and action flow swiftly past them. It is the power of liberalizing the professions that distinguishes Universities from technical schools; and one of the objects with which the Queen's University and Colleges were established was to extend to professional Students the status and advantages of a University degree. These Bodies fully recognise the principle that liberal culture ought to be the foundation of all the professions, and have constantly endeavoured, so far as has been practicable, to give effect to that principle. Accordingly in their curriculum they have combined with a merely professional education certain studies which tend to correct its one-sidedness and narrowness. Matriculation is preceded by a strict and *bonâ fide* examination—within a limited range, it is true—in English, Greek, Latin, and Mathematics; and every Medical Student, in addition to his strictly professional training, is obliged to pursue the following courses:—Modern Languages, Natural Philosophy, Chemistry, Botany, and Zoology—studies which are well suited to infuse a liberal element into special and technical acquirements, and clearly entitled to take rank in the category of Arts' subjects in any comprehensive system of University Education."

INTERMEDIATE EDUCATION.

Very early in the experience of the working of the Queen's Colleges a chasm was found to exist in the Educational system of the country, on the filling up of which depended to a large degree the extension of University education in Ireland;—it was felt that until this was done the educational forces of the Colleges could not be considered as having been brought into complete activity. Your Majesty having been graciously pleased to sanction a measure for the organisation of Intermediate Education which has been received with general approbation, it becomes the duty of all who are connected with the department of Education in Ireland to co-operate in carrying out to practical success the beneficent intentions of the Legislature.

Galway College, situated in a province in which the deficiency in Middle-class education reached its utmost intensity—as may best be illustrated by the single fact that in a population of one million, the Classical Schools were attended by 625 pupils—feels a special interest in the successful working of the Act. I may be allowed to express my anticipations that its provisions will prove effective in improving the condition and efficiency of the Secondary Schools; thus securing for many Students about to seek entrance into College a larger and sounder education than what has hitherto been within their reach, and consequently augmenting the number of those qualified to take advantage of the higher courses of instruction. And so I feel warranted in expressing the hope that this College will each year become more efficient in its various departments, more extensive in its range of action, and more successful in developing the intellectual resources of the province.

LIBRARY AND MUSEUMS.

The progress and condition of the Library and the Museums will be found described in the Reports of the Professors in whose charge these departments have been placed. Though no large additions have been made to these departments, they are in a highly efficient condition for practical instruction.

RECEIPTS AND EXPENDITURE OF THE COLLEGE.

In Appendix D will be found a statement of the Receipts and Expenditure of the College for the year ending March, 1878.

I cannot close this Report without referring to a matter which I think deeply concerns the present, and still more, the prospective, interests of the Queen's Colleges. The inadequacy of the incomes of the Professors has been admitted by high authorities; and it was anticipated that, as one of the results of the Commission which in 1876 investigated the condition of the Colleges, and which, it has been stated, bore high testimony to the value of the work done by the Professors, an addition would be made to their stipends. It would be difficult to find men more highly qualified for their duties than the present Professors, and it is important for the public interest to secure a succession of able men in University Chairs. The fact that some of the Professors of this College have now served it for nearly thirty years will, I trust, justify the respectful solicitation that this subject will receive the early attention of your Majesty's Government.

And in connexion therewith I would beg further to be permitted to observe that the Regulation which disentitles certain Professors to Retiring allowances can hardly fail to affect injuriously the working and character of the Colleges. Experience proves that it would be an act of wise liberality to extend the benefits of the Superannuation Act, so as to place the Professors of the Queen's Colleges on the same footing in this respect as the Professors in the Scottish Universities.

Testified on behalf of the College by your Majesty's most dutiful servant,

THOMAS W. MOFFETT, *President.*

April 21, 1879.

APPENDIX.

APPENDIX A.

Appendix A.

Reports of the Deans of Residences.

Reports of the Deans of Residences for the Session 1877–78.

Galway, February, 15th 1879.

My Dear Sir,—With very great pleasure I am able to report satisfactorily of the conduct and character of the students under my charge during the past year. I have had constant opportunity of intercourse with them in their residences and otherwise, and my careful observation enables me to say with thankfulness that during the year they have been very steady and diligent. They have regularly attended public worship.

Yours faithfully,

J. O'Sullivan, M.A.,

Dean of Residences, Church of Ireland.

The President, Queen's College, Galway.

Connor, June, 1877.

Dear Mr. President,—During the Session 1877–8 I have had about sixty Presbyterian Students in connexion with the various faculties under my care. It affords me pleasure to be able to report that without a single exception during the entire Session, and both in private and in public, their conduct has been in every sense most satisfactory.

Their attendance at public worship has been regular and punctual. A large number of them have also been diligent members of a Bible Class established for their use.

I beg leave, once more, respectfully to call the attention of the authorities to the clamant need for the erection of healthy and commodious Students' chambers.

I reget to report that I have been unable, this Session, to continue my course of College Lectures as in previous years.

It may not be out of place for me to bear emphatic testimony to the total absence of religious or sectarian ill-feeling among the Students of the various denominations. This year again I have observed with sincere pleasure the perfect mutual good feeling and camaraderie obtaining amongst the men.

In conclusion, I beg to thank the College authorities, and especially yourself, as our President, for the kind and ready aid which I have uniformly received in the discharge of my duties.

I am, Mr. President, your obedient servant,

John C. Moore, B.A.,

Dean of Residences, Presbyterian Church.

The President, Queen's College, Galway.

Appendix A.

Reports of the Deans of Residences.

DEAR SIR,—The moral conduct of the Students under my care for the last Session was excellent; my intercourse with some of them afforded me great cause for thankfulness, and gave bright hope for their future worth and usefulness. I was also glad to find as I visited them, that they were comfortably located for health and studies.

FREDERICK ELLIOTT,
Dean of Residences, Wesleyan Methodist Church.

To the President, Queen's College, Galway.

SIR,—There were no Students under my care as Dean of Residences during the Session 1877–78. I can not, therefore, furnish you with any report.

Believe me to be, sir, very truly yours,
J. KYDD,
Dean of Residences, Independent Church.

17th December, 1878.

Appendix B.

Reports of Professors, &c.

APPENDIX B.

REPORTS OF PROFESSORS AND LECTURERS FOR THE SESSION 1877–78.

GREEK.

Professors since the opening of the College:—

1849. *W. E. HEARNE, LL.D.
1854. †W. NESBITT, M.A.
1864. D'ARCY W. THOMPSON, M.A.

The course of last Session extended through three terms.

The classes were four in number:—

I. Honor Class, third year. II. Honor Class, second year. III. Honor Class, first year. IV. Pass Class, first year.

The subjects read with the Honor Class, third year, were: Herodotus, Book iii.; Thucydides, Book iv.; Plato, Gorgias; Iliad, Books xi.-xv. (inclusive); Odyssey, Books xi.-xv. (inclusive); Aristophanes, Vespæ.

The subjects read with the Honor Class, second year, were: Odyssey, Books 1-6 (inclusive); Euripides, Ion; Herodotus, Book 8; Demosthenes c. Midiam.

The subjects read with the Honor Class, first year, were: Iliad, Books xvi., xviii., xxi., xxiii.; Æschylus, Prometheus Vinctus; Sophocles, Antigone; Euripides Bacchæ; Thucydides, Book iii.

The subjects read with the Pass Class, first year, were: Euripides, Hippolytus; Xenophon, Anabasis, Book iv.

Three lectures weekly, on alternate days, are given to each class. At each lecture, in addition to the preparation of some set portion of an author, a written exercise is required from each student. The method of teaching is partly tutorial, partly professorial; the former method prevailing.

The total number attending the classes was 25. The students attending were all matriculated.

The total number of Lectures given was 250.

The average attendance of all the classes, taken collectively, was at the rate of 86 per cent.

D'ARCY W. THOMPSON, M.A.,
Professor of Greek.

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* Warden and Dean of the Faculty of Law, University of Melbourne.
† Professor of Latin in Queen's College, Belfast.

LATIN.

Professors since the opening of the College :--
1849. †WILLIAM NESBITT, M.A.
1854. RICHARD B. BAGLEY, M.A.
1869. THOMAS MAGUIRE, LL.D.

Queen's College, Galway, February 19th, 1879.

In the Session 1877–8 I delivered 254 lectures on Latin. Portions of the Latin writers from Lucretius to Tacitus were read, and in each instance the students' attention was directed to what the writer said, and not to what was said about him. Twenty-nine students attended, and their conduct was exemplary.

THOMAS MAGUIRE.

MATHEMATICS.

Professors since the opening of the College :—
1849. *JOHN MULCAHY, LL.D.
1853. GEORGE JOHNSTON ALLMAN, LL.D.

According to the regulations of the Queen's University all students in the Faculty of Arts are required to attend a course of Mathematics during the first session; in the second session, Mathematics (second course) forms one of four courses, out of which students are required to select two; third year's students may substitute an attendance on an Honor Course of Mathematics for one of the courses set down for study in the third session.

All students in the department of Engineering are required to attend the courses of Mathematics during the first and second sessions.

On entering, students are required to pass an examination in Arithmetic; Algebra, as far as Simple Equations; and the First and Second Books of the Elements of Euclid.

The course for Science Scholarship of the first year includes the first Six Books of Euclid; Algebra, as far as the Binomial Theorem; and Plane Trigonometry, as far as the Solution of Triangles. The candidates for these scholarships are generally well prepared in this course.

For this reason two courses of Mathematics are provided for students of the first year, the higher course being attended also by the Pass Students of the second year, and the Professor gives four courses of lectures extending over three terms.

In the session 1877–8, the subjects of lecture, the number of lectures delivered, and the number of students attending the lectures in each of these four courses were as follows :—

I. Subjects of lecture :—

Theory of Arithmetic; Elements of Algebra; Plane Trigonometry, as far as the Solution of Triangles.

Number of lectures, . . .	62
Number of students, . . .	23 (of first year).

II. Subjects of lecture :—

Elements of Solid Geometry, including the measure of prisms, pyramids, and the three *round bodies*; Plane and Spherical Trigonometry; Nature, and Simple Transformations, of Algebraical Equations, Solution of Cubic and Biquadratic Equations; Analytic Geometry, Discussion of the Equations of the Straight Line and Circle.

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* Author of Principles of Modern Geometry, Dublin, 1852.

Number of lectures, . 42
Number of students, . 14 (11 of first year, and 3 of second year).

III. Subjects of lecture :—

Analytic Geometry, including the Discussion of the Equation of the second degree, and the properties of Conic Sections; Differential and Integral Calculus.

Number of lectures, . 61
Number of students, . 6

IV. Subjects of lecture :—

Analytic Geometry, of three dimensions; Differential Equations.

Number of lectures, ... 40
Number of students, ... 1 (of third year).

Total number of lectures delivered, ... 205
Total number of students in attendance, . . . 32

George J. Allman, ll.d.

Natural Philosophy.

Professors since the opening of the College :—

1849. *Morgan W. Crofton, b.a., f.r.s.
1852. †George J. Stoney, m.a., f.r.s.
1857. Arthur H. Curtis, ll.d.

July 3rd, 1878.

I have to report that, during the Session 1877-8, the usual six courses in Natural Philosophy were delivered :—Three in Mixed Mathematics, two in Experimental Physics, and one in Applied Natural Philosophy. The total number of lectures delivered was 230, and the number of students attending, 79. The regularity and industry of the students were deserving of much praise.

Arthur Hill Curtis, ll.d.

To the President, Queen's College, Galway.

History, English Literature, and Mental Science.

Professors of History and English Literature since the opening of the College :—

1849. Edward Berwick, b.a.
1850. Very Rev. J. P. O'Toole.
1852. Joseph O'Leary, b.a.
1864. T. W. Moffett, ll.d.

Logic and Metaphysics.

1849. T. W. Moffett, ll.d.

By the Charter of 1863, the Chair of History and English Literature was combined with that of Mental Science.

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* Professor of Mathematics and Mechanics, Royal Military Academy, Woolwich.
† Secretary of the Queen's University.

I. THE ENGLISH LANGUAGE CLASS.

Appendix B. Reports of Professors, &c.

This Class is attended by Students in Arts of the First Year. The prescribed Lectures were delivered in the Second Term of the Session; additional (voluntary) Lectures being given in the Third Term.

During the Session 1877–8, the Students went through the following course of expository readings:—Johnson's Vanity of Human Wishes; Gray's Elegy and Bard; Goldsmith's Traveller and Deserted Village; Coleridge's Ancient Mariner; and Macaulay's Essays on Clive and Hastings.

The Grammatical, Literary, and Biographical details were discussed by means of *vivâ voce* questions and answers.

In the course of Lectures a view was given of the main facts in the history and growth of the English Language; attention was also paid to Composition.

Number of Students in Class, . . .	18
Number of Lectures, ...	38

II. THE LOGIC CLASS.

This Class is attended by Students in Arts of the Second Year. The prescribed Lectures were delivered in the Second Term of the Session; additional Lectures being given in the Third Term.

Fowler's Deductive Logic, with the relative parts of Jevons' Lessons on Logic, will indicate the nature and limits of the course. Constant references were made to the treatises of Aldrich, Spalding, Thomson, &c.

Number of Students in the Logic Classes, .	13
Number of Lectures, ...	42

IV. ENGLISH LANGUAGE AND LITERATURE.*

In this department (as in those of Higher Logic, History, and Metaphysics) the Class is attended by Students of the Third Year, and the Lectures are delivered in the First and Second Terms; a voluntary course being added in the Third Term.

During the Session 1876–7, in addition to Lectures, more or less formal, on the successive movements of our Literature, and on the lives and writings of the more eminent or representative Poets and Prose-writers of each period, the Class went through the following course of critical reading:—Chaucer's Prologue to the Canterbury Tales; Shakspere's Hamlet and Julius Cæsar; Milton's Paradise Lost, Books I. and II.; Dryden's Absalom and Achitophel; Johnson's Lives of Milton and Dryden; Burke's Thoughts on the Cause of the Present Discontents, and two Speeches on America.

Number of Students, ...	6
Number of Lectures, ...	57

V. HISTORY.*

The course included the history of Great Britain and Ireland from the accession of the House of Stuart to 1830, and of France for the same period.

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* In the Third Session Students are allowed, under special conditions (see University Calendar), to substitute certain other courses of Lectures for those in English Language and Literature, History, and Metaphysics.

A summary view was given of the nature, uses, and general divisions of History and the method of studying it; of public events and transactions, and the general progress of society; while special attention was bestowed on Constitutional and Legal History.

Constant references were made to the Histories of Hume, Lingard, Macaulay, Hallam, Dyer, Creasy, Erskine May, Green, and other works, which are accessible in the Library.

Number of Students,	6
Number of Lectures,	52

VI. METAPHYSICS.*

The course included discussions on the principles of Psychological and Metaphysical science, with a critical review of the principal Philosophical systems from Descartes to the present time. Sir William Hamilton's Lectures, and Notes and Dissertations on Reid, and Ueberweg's History of Philosophy were largely used; constant references being made to other standard works.

Number of Students,	2
Number of Lectures,	49

The Professor cannot but commend the industry and attention of the Students generally; he very seldom found it necessary to urge them to greater exertions. At the Examinations at the close of the Session, the answering of not a few was excellent, while he had not occasion to censure the preparation of any. Still more important, he thinks, than any special acquisition of knowledge was the habit of diligent and conscientious study, which he can testify many of the Students exemplified.

T. W. MOFFETT, LL.D.

CHEMISTRY.

Professors since the opening of the College :—

1849. EDMUND RONALDS, Ph.D.
1856. THOMAS H. ROWNEY, Ph.D.

Queen's College, Galway, January 3rd, 1879.

The total number of students attending the classes of Chemistry during the Session 1877–8 was 77; of these 55 attended the general class on Theoretical Chemistry, and 22 the class for Practical Chemistry. In the class for Theoretical Chemistry 66 lectures were delivered. Owing to the want of sufficient accommodation, the students attending the practical course were divided into two classes, and 30 lectures were given in each class.

THOS. H. ROWNEY, PH. D.,

Professor of Chemistry.

To the President, Queen's College, Galway.

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*In the Third Session Students are allowed, under special conditions (see University Calendar), to substitute certain other courses of Lectures for those in English Language and Literature, History, and Metaphysics.

MINEROLOGY AND GEOLOGY.

1849. WILLIAM KING, D.Sc.

February 19, 1879.

Fifty-two lectures were delivered during the past Session.

The class consisted of six students, two in Engineering of the Third Year, three in Art of the Third Year, an one Non-Matriculated Student.

The conduct of the class was all that could be desired. The attendance on the lectures was excellent.

Two members of the class, one a student in Engineering and one in Arts, obtained first-class prizes.

WILLIAM KING, SC.D.

To the President of Queen's College, Galway.

NATURAL HISTORY.

1849. A. G. MELVILLE, M.D.

Rahon, 19th February, 1879.

I have to report that the class of Natural History for Session 1877–78 consisted of Students in Medicine and in Arts.

As usual the conduct of the Students has been satisfactory.

No funds having been allocated to the Museum of Natural History, owing to demands in another department deemed more urgent, no additions have been made, and a small debt for skeletons must remain unpaid. No avoidable injury has taken place.

A. G. MELVILLE.

To the President, Queen's College, Galway.

MODERN LANGUAGES.

Professors since the opening of the College:—

1849. AUGUSTUS BENSBACH, M.D.
1868. CHARLES GEISLER, Ph.D.

The study of Modern Languages in this College has been considerably advanced, owing to the beneficial effects of a new rule which allows French and German to be placed on an equal footing, inasmuch as full credit is now awarded to good answering in both subjects, at second year's Scholarship Examination.

I trust it may also soon be deemed advisable to require some rudimentary knowledge of a modern language at entrance, in order that a first year's Honor Class might be formed, which would be able to attain that average standard of proficiency which is, under present circumstances, only reached towards the middle of the second Session. I am encouraged to hope so from the pleasing fact that the majority of first year's Students already knew a good deal of French or German when they entered at the beginning of this Session.

A course of lectures, extending over two terms, is exclusively delivered to Medical Students. I am highly gratified to be able to say, that these non-professional studies are pursued by them with the liveliest interest and with undivided attention, although they may be occasionally disparaged by stern advocates of a one-sided strictly professional education. During fifty or sixty lectures on language certainly excellent opportunities are afforded to bring home to the mind of even the professional Student many very suggestive observations on things of deep import, having a direct bearing on questions which more closely concern him.

CHARLES GEISLER, Ph.D.

The President, Queen's College, Galway.

LECTURES ON SANSCRIT LANGUAGE.

The Professor of Modern Languages is also, by permission of the Council of the College, entitled to deliver lectures on the Sanscrit Language. It is desirable that this language should be allowed to form one of the optional subjects in the third year's course, as this has been already conceded in a particular case during the present Session to a Student who was compelled to devote most of his time to the study of Sanscrit and Hindustani. The latter language might as well enjoy the same privilege as Sanscrit. It would be a real boon conferred on Students who prepare for the competitive Indian Civil Service Examinations.

CHARLES GEISLER.

LECTURES ON HEBREW LANGUAGE.

The Professor of Modern Languages has been granted the permission, by the Council of the College, to make arrangements for the opening of a Hebrew Class. Such a class, chiefly destined for Divinity Students of the Protestant persuasions, will be conducted exclusively with a view to the study of the language without any direct or indirect reference to religious matters.

CHARLES GEISLER.

The President, Queen's College, Galway.

JURISPRUDENCE AND POLITICAL ECONOMY.

Professors since the opening of the College :—

1849. DENIS C. HERON, LL.D., Q.C.
1859. JOHN E. CAIRNES, M.A.
1870. WILLIAM LUPTON, M.A.
1876. ROBERT DONNELL, M.A.

4th July, 1878.

I beg to report my entire satisfaction with the diligence, progress, and attention of the gentlemen attending my classes during the session 1877-8. The answering of all at the Sessional Examinations was particularly good.

R. DONNELL, M.A.,
Professor of Jurisprudence and
Pol. Economy.

To the Registrar, Queen's College, Galway.

English Law.

Professors since the opening of the College :—

1849. *Hugh Law, B.A., Q.C.
1858. W. B. Campion, B.A., Q.C.

During the Session 1877-8, the attendance of students in this department was extremely good, and their progress very satisfactory. This class consists almost entirely of gentlemen intending to enter the legal profession, particularly that of the Bar, for which the subjects of lecture and examination are well suited as a preparatory course of study.

W. Bennett Campion.

March 12th, 1879.

Anatomy and Physiology.

Professors since the opening of the College :—

1849. †Charles Croker-King, M.D., M.R.I.A.
1863. John Cleland, M.D., F.R.S.
1877. Joseph P. Pye, M.D., M.Ch.

Lectures on Anatomy were delivered on five days in each week during the Medical Session of 1877–8, extending over a period of six months. Dissections—under the superintendence of the Professor and Demonstrator—were carried on in the Practical Rooms from 9 o'clock A.M. till half-past 4 P.M., daily, during the same period.

Lectures on Physiology were delivered on five days in each week during the Medical Session. On one of these days in each week Practical Demonstrations in Physiology were given. .

One hundred Students attended the Class of Practical Anatomy : and 50 of these that of Physiology.

The conduct of the Students was good, and their attendance at lecture regular.

Towards the close of the Session difficulties in providing a supply of subjects for anatomical study occurred.

These difficulties—which for a time looked serious—have, I am happy to say, been overcome ; and the School of Anatomy has been placed in a position more secure than it occupied at any previous time.

Taking the attendance in the Class of Practical Anatomy as a guide to the progress of the Medical School, it is important to notice that the number of Students in that class was higher in the Session 1877–8 than in any previous year. To ensure a continuance of that progress, and to render the position of the Medical School independent of local influences, which on more than one occasion seriously imperilled it, the establishing of satisfactory relations between the College Clinical Board and the Galway Hospitals is imperatively called for.

As one of the Clinical Lecturers I have signed a special report on which is indicated a plan of establishing such relations on conditions which would seem to be for the interest of the Hospitals and of the College.

I have to represent the urgent need that exists of a special grant for the purchase of instruments and apparatus used in physiological research and teaching. The teaching of Physiology by means of practical demonstrations is now provided for in the Medical Schools of this

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* P.C., M.P. co. Londonderry ; some time Attorney-General for Ireland.

† Medical Commissioner, Local Government Board.

Appendix B.
Reports of Professors, &c.

country with few exceptions. It is exceedingly difficult for a Student to acquire an intelligent appreciation of the results of physiological research unless the methods by which such results are arrived at be shown.

I am prepared to furnish an estimate of the cost of the more important instruments, for the purchase of which a special grant would be required.

J. P. Pye, M.D.,
Professor of Anatomy and Physiology.

PRACTICE of MEDICINE.

1849. NICHOLAS COLAHAN, M.D.

Dominick-street, July 4, 1878.

The number of Students attending the lectures on the Theory and Practice of Medicine during the Sessions of 1877 and 1878 were 18, and the number of lectures delivered 52.

The Students were gentlemen of advanced education in Medicine, and conducted themselves with the utmost attention and good conduct.

During the progressive examinations held by me I had an opportunity of judging of their ability and acquirements, of these I cannot speak too strongly, and I felt it my duty at the termination of the course to express my pleasing conviction that they were destined to occupy hereafter a very high position in the profession which they had chosen.

N. COLAHAN, M.D.

THEORY and PRACTICE of SURGERY.

1849. JAMES V. BROWNE, M.D.

Three Lectures are delivered weekly, and are continued during the Medical Session, on the subject of Theory and Practice of Surgery, in addition to which clinical Lectures on Surgery are delivered, and operations performed. The Professor has every reason to be pleased with the conduct and attention of the Class.

J. V. BROWNE, M.D.

MIDWIFERY.

1849. RICHARD DOHERTY, M.D.
1876. RICHARD J. KINKEAD, B.A., M.D.

4th July, 1878.

I have the honour to report that during the Session 1877–78, I delivered 50 lectures on Midwifery, and diseases peculiar to women.

The attendance of the students was good, and I cannot speak too highly of their attention and good conduct.

The answers of those who went in for the Sectional Examination, were with one exception very creditable.

I regret exceedingly that there is no hospital where they can learn Practical Midwifery, or see the proper treatment of uterine diseases carried out.

Having obtained from Paris a very superior phantom, I hope next Session to be able to teach the class how to use obstetrical instruments.

I must, however, point out that it is utterly impossible in one course of lectures to teach subjects of so vast an extent, and of such extreme importance.

R. J. Kinkead, M.D., Dub.
Professor of Midwifery.

The President, Queen's College, Galway.

Medical Jurisprudence.

4th July, 1878.

I have the honour to report that during the Session 1877–78 I delivered 27 lectures in Medical Jurisprudence.

The class was exceedingly attentive and well-conducted, and the attendance was very good.

R. J. Kinkead, M.D., Dub.,
Lecturer in Medical Jurisprudence.

The President, Queen's College, Galway.

Materia Medica.

Professors since the opening of the College :—

1849. Simon M'Coy, F.R.C.S.I.
1873. J. P. Pye, M.D., M.Ch.
1878. Nicholas W. Colahan, M.D., M.Ch.

I have the honour to report that the condition of this class was highly satisfactory during the period in which I discharged the duties of the chair. This was from the 24th November to 16th March, the early lectures having been delivered by Dr. Pye, and those from 16th March to the close of the Session by the newly-appointed Professor, Dr. Colahan.

The class consisted of 27 members, whose attendance (with one or two exceptions) was most regular, and their deportment gentlemanly and orderly in the extreme. There was not a single breach of discipline during the entire period referred to.

The lectures were illustrated by plates and specimens from the Materia Medica Museum, and by chemical experiments when necessary. The entire number delivered during the Session was 47.

I was much pleased with the earnestness manifested by the members of the class in applying themselves to the study of this important subject. Their answering on the numerous occasions on which I tested their knowledge was remarkable for clearness and accuracy, displaying a thorough practical knowledge of the subject.

John J. Lynham, M.D., &c.,
Lecturer on Materia Medica.

The President, Queen's College, Galway.

Report of the Clinical Lecturers.

Sir,—On several occasions we have deemed it our duty to bring under the notice of Government the disadvantages under which the Professors of the Medical School of this College labour in endeavouring to give practical clinical instruction to students.

Appendix B.

Report of Professors, &c.

We beg to submit again a statement of these disadvantages; the recent election of medical officer to the Galway Workhouse Hospital having shown that the apprehensions we expressed in former communications have been justified by events.

Clinical instruction is given in the Galway County Infirmary, Workhouse, and Fever Hospitals. At one time the medical officers of these hospitals were Professors, respectively, of Surgery, Anatomy, and Medicine in the College. The only Professor now holding an hospital appointment is Dr. Browne, Surgeon to the County Infirmary.

Under a temporary arrangement, entered into for this Session only, the medical officers of the workhouse and fever hospitals give clinical instruction.

Over their appointment, or over their method of teaching, the College has no control.

If the efficiency of the clinical teaching is to be maintained, we respectfully submit that steps should be taken to bring into connexion with the College an hospital in which the Professors shall have opportunities of pointing out at the bedside the nature and course of the diseases on which they deliver lectures to their several departments in the College.

Such an hospital may be secured at very little expense by utilizing the present county infirmary. It contains ample accommodation for medical and surgical cases, and an additional ward for midwifery would render it complete.

We think it right to say that the Board of Governors allow ample facilities for clinical teaching; and that Professor Browne, the surgeon to the hospital, has shown a desire to promote, in every way, the interests of the College, two of the other medical Professors being associated with him in conducting the clinical practice. Unfortunately, the funds of the hospital do not allow more than one-third of the existing accommodation to be utilized.

We would respectfully suggest, for the consideration of Government, that on the death, resignation, or retirement, of the present surgeon, no county surgeon should be appointed, but that the medical Professors of the College should be *ex-officio* surgeons and physicians, and bound to attend the county infirmary as part of their professorial duties.

One result of this change would be to set free the salary now paid to the county surgeon. Certain other changes, which we are prepared to point out, would still further reduce the establishment charges, leaving a corresponding sum available for the maintenance of the sick.

But to keep open the full number of beds now in the hospital, and the additional ones we propose to establish as an obstetric department, a further sum would, in our opinion, be required.

A portion of this, we anticipate, might be obtained by extending the system of pay wards for patients; the remainder, we respectfully suggest, might be charged on the Consolidated Fund, on the same principle that local rates are aided, under the Poor-Law system, by half the expenses of working the Medical Charities Act being borne by that fund. We may add that some of the clinical hospitals of Dublin receive annual Governmental subsidies.

In support of our suggestion, that the county infirmary should receive a share of the support which the hospitals under the Local Government Board receive from the Consolidated Fund, we would add that the infirmary might then be placed under the control of that Board, so that the accounts should be audited by its auditor, and the hospital itself regularly inspected by the Local Government Board Inspector.

To the hospital thus re-organized the Boards of Guardians throughout the county might have the power of admitting such cases as, in the opinion of their surgeons, ought to be sent there. That there are such cases, may be seen from this fact, that at the present moment a petition to the President of the English Local Government Board is being numerously signed by the medical officers of the Poor-Law Service in that country, urging the establishment of special hospitals distinct from the ordinary workhouse infirmaries, to which selected cases should be sent for special medical and surgical treatment.

While we thus suggest that the infirmary should be utilized to relieve the local workhouse hospital, strong reasons exist for the maintenance of the present county grant. For there is a large class of persons in Ireland who are too poor to pay for medical advice, and yet whose self-respect is so great that they prefer to suffer rather than endure the disgrace of pauperism. The feeling of social degradation which prevents them from entering the workhouse hospital does not extend to the county infirmary.

We believe, then, that an enlarged and re-organized county hospital would prove a benefit to the public as well as to the College. We are prepared to furnish a financial statement, showing in detail the actual income and expenditure of the county infirmary, and an estimate of the additional grant which would, in our opinion, be required.

J. V. Browne, M.D., Professor of Surgery, Clinical Lecturer, Surgeon to the County Galway Infirmary.
J. P. Pye, M.D., M.Ch., Professor of Anatomy and Physiology, Clinical Lecturer, County Galway Infirmary.
R. J. Kinkead, A.B., M.D., Dublin, Professor of Obstetric Medicine, Clinical Lecturer, County Galway Infirmary.

To the President, Queen's College, Galway.
March, 1878.

Civil Engineering.

Professors since the opening of the College :—

1849. W. B. Blood, B.A.
1860. Edward Townsend, M.A., C.E.

The Engineering School consists of three classes, and the course of instruction extends over a period of three years.

The year, or Session, consists of three terms, and each class receives six lectures per week during each term, three of which are given to office work.

The Drawing School is open from ten to five every day in the week, so that ample opportunity is afforded to students for the work executed in that department.

Students of the second and third years are taken out for Field Operations, such as the Making of Sections, and Surveys, the Measurements of Heights, the laying out of Railway Curves, and other work calculated to familiarize them with the use of the level, theodolite, and sextant.

Appendix B.

Reports of Professors, &c.

The number of lectures given in the Session 1877–8 was 248. Of these 62 were given to students of the first year, 62 to students of the second, 62 to students of the third, and 62 to office work. The last Course was attended by the three classes simultaneously.

The conduct of the students was good, and the attendance regular.

The following constitute the principal subjects of study in each year:—

First Year.—Curves, Scales, Descriptive Geometry and Projections, Isometric Drawing, Perspective Drawing, and Shadows.

Second Year.—Construction, Adjustment and Manipulation of Instruments; Surveying, Levelling, Mapping, Mensuration of Earthwork, Railway Curves, Descriptive and Constructive Architecture.

Third Year.—Nature, Property, and Strength of Materials; Stresses in Girders, Roofs, and other structures; the construction of Iron, Timber, and Stone Bridges; Roads and Railways, Hydraulics, Supply of Water to, and Drainage of, Towns, Pumping Engines, Parallel Motion, Link Motion, and the Locomotive Engine.

In the study of the above Subjects, the following text-books are recommended:—

First Year.—Treatises on Descriptive Geometry, by Hall, Heather, De Fourcy, and Leroy, "The Carpenter's Assistant," and the "Engineer and Machinist's Drawing Book."

Second Year.—Rankine's "Manual of Civil Engineering," Simms on the Adjustments of Instruments, Heather on Instruments, Williams' "Practical Geodesy," Sir John Macneill's Tables, Bidder's Tables, "History of Architecture," by Ferguson, 3 vols., Rickman's "Gothic Architecture," "The Oxford Glossary," Aikin on the Doric Order, Stuart and Revett's "Antiquities of Greece."

Third Year.—Rankine on the Steam Engine, Rankine's "Prime Movers," Zeuner's "Valve Gear," Clarke on the Locomotive, Reid on the Manufacture of Portland Cement, Reid on Limes, Rankine's "Manual of Civil Engineering," Stoney on Strains, Humber on Iron Bridges, Downing's "Hydraulics," Neville's "Hydraulics," Beardmore's "Hydraulic Tables," Latham's "Sanitary Engineering," "History and Manufacture of Iron," by Fairbairn. Papers in the Minutes of the Proceedings of the Institution of Civil Engineers, London and Ireland, and in the Transactions of the Society of Engineers.

EDWARD TOWNSEND, M.A.

Appendix C.

APPENDIX C.

REPORT OF THE LIBRARY AND MUSEUMS.

THE LIBRARY.

Library, Queen's College, Galway, April 13th, 1878.

During the first half of 1877 I was engaged as Acting-Librarian in carrying out towards completion the re-organization of the Library, which, in the previous year, had been inaugurated by the Library Committee, and specially superintended by Dr. Maguire and myself. The result of our united work, in which we were greatly assisted by the intelligent and willing co-operation of the Sub-Librarian, is, that the College property in the Library, by the great amount of binding done within the last two years, has been greatly improved in value, and the re-arrangement of books into departments and sections has tended to the convenience of readers.

There are now 44 names on the Visitors' Lending Book; and, from

Appendix C.

Reports of the Library, and Museums.

the number of books borrowed continually, it would appear that the liberality of the Council is well appreciated in the town and neighbourhood.

During the past two years the number of student-readers has been steadily increasing.

A third Supplementary Catalogue, including some four years of arrears, was printed last year. Additional printed slips, exhibited in the Library, virtually extend the Catalogue to the end of February, 1878.

The Departmental Catalogue is far advanced, nearly 300 pages being already in type. It will, in all probability, be completed before the close of the year.

The number of books added to the Library in 1877, exclusive of periodicals, was 483, bringing up the sum total of books in the Library to a little over 18,000.

D'ARCY W. THOMPSON, M.A.,
Acting-Librarian.

To the President and Council, Queen's College, Galway.

MUSEUMS.

MINERALOGY AND GEOLOGY.

Queen's College, Galway, February 19, 1879.

Some expensive specimens having been purchased in 1877 for the Geological Museum prevented any further additions being made to it during the past session, particularly as a number of books, and an exceptionally heavy bill for binding, had to be paid out of the fund allocated to my chair.

I can still report favourably on the general condition of the collections in the Museum.

WILLIAM KING, SC.D.,
Professor of Mineralogy and Geology.

To the President of Queen's College, Galway.

CHEMISTRY.

Queen's College, Galway, January 3, 1879.

The Chemical Museum contains specimens of the metals and non-metallic bodies, specimens of organic and inorganic compounds employed in medicine and manufactures, and also apparatus and diagrams, &c., for the illustration of the lectures, and for the use of the students attending the practical class.

THOMAS H. ROWNEY, Ph.D.,
Professor of Chemistry.

To the President, Queen's College, Galway.

NATURAL PHILOSOPHY.

March 28, 1878.

I beg to state that the Museum in my charge is in a satisfactory state. In consequence of the small sum at my disposal during the last year, no new apparatus have been added, but two or three have been repaired.

ARTHUR HILL CURTIS, LL.D.,
Professor of Natural Philosophy.

To the President and Council.

Appendix C.

Reports of the Library, and Museums.

ENGINEERING.

12th April, 1878.

I beg to state that the apparatus under my care is in fair working order. During the past year I have had some useful working drawings made for the school, and I have added good engineering works to the Library.

The Board of Works are at present engaged in erecting a partition in the outer hall, for the purpose of forming a model room. When this is finished, I hope gradually to establish an Engineering Museum, which would be of great benefit to the Students.

EDWARD TOWNSEND, M.A.

The President and Council, Queen's College, Galway.

Appendix D.

APPENDIX D.

ACCOUNT of the RECEIPTS and EXPENDITURE of the ADDITIONAL PARLIAMENTARY GRANT of £1,600, for MAINTENANCE of the COLLEGE, and of the COLLEGE FEES and FINES, for the year ending 31st March, 1878.

1877.	DR. RECEIPTS.	£	s.	d.	£	s.	d.
April 1,	To Balance,	351	4	9			
1878. March 31,	„ Amount received from Paymaster of Civil Services during the year ending this date,	1,600	0	0			
	Total,				1,951	4	9

	CR. EXPENDITURE	£	s.	d.	£	s.	d.
	From 1st April, 1877, to 31st March, 1878.						
	1. Library—						
	Ancient and Modern Languages, &c.,	328	18	4			
	Mathematical and Physical Sciences,	90	11	3			
	Natural Sciences,	159	8	4			
	Engineering,	22	18	5			
	Medical Sciences,	68	11	3			
	Mental and Legal Sciences,	19	2	3			
	Binding,	321	9	5			
					1,010	19	3
	2. Apparatus, Diagrams, Materials for Laboratory, &c.—						
	Chemical Laboratory,	16	6	5			
	Physical Cabinet,	12	2	7			
	Engineering—Diagrams, &c.,	23	9	6			
	Medical Faculty—Apparatus, &c.,	30	5	11			
					82	4	5
	3. Natural History and other Museums (Purchased Specimens, Labels, &c.),				102	0	5
	4. Printing, Stationery, and Advertising,				154	4	2
	5. Heating and Lighting,				162	4	7
	6. Botanic Garden and Maintenance of College Grounds, (Wages, &c.),				119	13	2
	7. Miscellaneous Expenditure (Porters' Clothing, Water Supply, Postage, &c.),				111	6	8
	Total,				1,742	12	8
1878. March 31,	Balance unexpended,				208	12	1
	Total,				1,951	4	9

FEES AND FINES.

		£	s.	d.	£	s.	d.
	DR.						
1877. April 1,	To Balance unexpended,				315	8	5
1878. March 31,	„ College Fees from Students, from 1st April, 1877, to date, viz.:—						
	78 at 10*s.*	39	0	0			
	113 at 5*s.*	28	5	0			
	Fines,	0	7	6			
	Certificates,	12	0	0			
					79	12	6
	Total,				395	0	11

		£	s.	d.	£	s.	d.
1878. March 31,	CR. By payments from 1st April, 1877, to date, viz.:—						
	Stipend to Lecturer on Medical Jurisprudence,	50	0	0			
	Corporation Mace,	110	0	0			
	Watchman,	2	2	0			
	Cleansing purposes, &c.,	5	12	0			
	Travelling Expenses, &c.,	17	4	4			
	Special Award to a Student,	12	0	0			
	Athletic Club,	6	6	0			
	Pedestal for bust of the late President Berwick,	4	14	0			
	Miscellaneous Expenditure,	8	8	6			
	„ Balance unexpended,	178	14	1			
	Total,				395	0	11

The Accounts of the College up to 31st March, 1878, have been examined and found correct by the Comptroller and Auditor General.

GEORGE J. ALLMAN, LL.D., *Bursar.*

APPENDIX E.

General Regulations of the College; List of Officers; Courses for Matriculation and Scholarships, Exhibitions, &c.

SESSION 1879–80.

DAYS AND HOURS OF MATRICULATION AND SCHOLARSHIP EXAMINATIONS.

OCTOBER, 1879.

DAYS.	HOURS.	FIRST YEAR.	SECOND YEAR.	THIRD YEAR.	SENIOR SCHOLARSHIPS.
Tuesday, 21st Oct.	10—5		Supplementary Examinations.	Supplementary Examinations.	
Wednesday, 22nd Oct.	10—5		Supplementary Examinations.	Supplementary Examinations.	
Thursday, 23rd Oct.	10—1		Lit. Schol.—Latin.		
	2—5		Lit. Schol.—Greek.		
Friday, 24th Oct.	10—11½ 11½—1	Matriculation. { English. Latin & Greek.	Lit. Schol.—English. Eng. Schol.—Geom. Draw., &c.		English.
	2—3 3—5	Matriculation. { Vivâ voce *(generally).* Mathematics.	Lit. Schol.—English. Eng. Schol.—Geom. Draw., &c.		
Saturday, 25th Oct.	10—1		Lit. Schol.—Latin. Med. Schol.—Nat. Hist.		Natural History.
	2—5		Lit. Schol.—Greek. Med. Schol.—Nat. Hist.		Metaphysics.
Monday, 27th Oct.	10—1	Lit. Med. } Schol.—English.	Med. Eng. Lit. } Schol.—Med. Lang.	Engin. Schol.—Engin.	French.
	2—5	Lit. Med. } Schol.—Greek.	Lit. Schol.—Med. Lang.	Engin. Schol.—Engin.	German.
Tuesday, 28th Oct.	10—1	Lit. Med. } Schol.—Latin.	Med. Eng. } Schol.—Chem.		Chemistry.
	2—5	Lit. Med. } Schol.—Greek.			Economic Science.
Wednesday, 29th Oct.	10—1	Lit. Med. } Schol.—Latin.	Med. Schol.—Nat. Phil.	Engin. Schol.—Nat. Phil.	Natural Philosophy.
	2—5	Science Med. Engin. } Schol.—Arithm.	Science Engin. } Schol.—Math.	Engin. Schol.—Nat. Phil.	Modern History.
Thursday, 30th Oct.	10—1	Science Med. Engin. } Schol.—Geom.*	Science Engin. } Schol.—Math. Med. Schol.—Anat.	Engin. Schol.—Math.	Mathematics.
	2—5	Science Med. Engin. } Schol.—Alg. & Trig.	Med. Schol.—Anat.	Engin. Schol.—Math.	Practical Chemistry.

The Examinations for Senior Scholarships in Arts will commence on Thursday, the 17th October, with the exception of that in the Greek and Latin languages, which will be held at the close of the first Term.

The Examination for the Third and Fourth Year Scholarships in Medicine will commence on Thursday, the 24th October.

Arrangements will be made for holding the Examinations for Law Scholarships early in December.

* The University Prizes in Geometry will be decided on this paper, which will be also taken into account in deciding the First Year's Science Scholarships.

Regulations of the College.

QUEEN'S COLLEGE, GALWAY.—FOUNDED DECEMBER 30, 1845.

THIS College is a Corporation, founded by Letters Patent under the Great Seal of Ireland, under the name and style of the "President and Professors of Queen's College, Galway."

The general government and administration of the College under the Statutes, and in cases not provided for by the Statutes, is vested in a Council consisting of the President, and six Professors elected by the Corporate Body.

VISITORS.

His Grace the Lord Primate.
His Grace the Duke of Leinster.
The Right Honorable the Chief Secretary for Ireland.
The Right Reverend the Lord Bishop of Tuam.
The Most Reverend Archbishop M'Hale.
The Right Honorable Mr. Justice FitzGerald.
The Right Honorable the Lord Chief Justice of the Common Pleas.
The Rev. the Moderator of the General Assembly.
The President of the King and Queen's College of Physicians.
The President of the Royal College of Surgeons.

PRESIDENT.

THOMAS W. MOFFETT, LL.D.

COUNCIL.—1878–79.

The President.
James V. Browne, M.D.
D'Arcy W. Thompson, M.A.
George J. Allman, LL.D.
Thomas H. Rowney, PH.D.
Edward Townsend, M.A.
Charles Geisler, PH.D.

PROFESSORS.

Greek, ...	D'Arcy W. Thompson, M.A.
Latin, ...	Thomas Maguire, LL.D.
Mathematics, . . .	George Johnston Allman, LL.D.
Natural Philosophy, . .	Arthur Hill Curtis, LL.D.
History, English Literature, and Mental Science,	Thomas W. Moffett, LL.D.
Chemistry, ...	Thomas H. Rowney, PH.D.
Natural History, . . .	Alexander G. Melville, M.D. Edin., M.R.C.S. Eng.
Mineralogy and Geology,	Wm. King, D. Sc.
Modern Languages, . .	Charles Geisler, PH.D.
Jurisprud. and Polit. Econ.	Robert Donnell, M.A.
English Law, . . .	William B. Campion, B.A., Q.C.
Anatomy and Physiology,	Joseph P. Pye, M.D.
Practice of Medicine, .	Nicholas Colahan, M.D.
Practice of Surgery, .	James V. Browne, M.D., L.R.C.S.I.
Materia Medica, . .	Nicholas W. Colahan, M.D., M.CH.
Midwifery, ...	Richard John Kinkead, B.A., M.D.
Civil Engineering, . .	Edward Townsend, M.A.
Lecturer on Medical Jurisprudence,	Richard John Kinkead, B.A., M.D.

OFFICE-BEARERS.

Arthur Hill Curtis, LL.D., ...	Registrar.
George J. Allman, LL.D., ...	Bursar.
D'Arcy W. Thompson, M.A., . . .	Acting Librarian.

DEANS OF RESIDENCE.

Church of Ireland, ...	Rev. James O'Sullivan. M.A.
General Assembly of the Presbyterian Church in Ireland, .	(Vacant.)
Wesleyan Methodist Church, ...	Rev. F. Elliott.
Independent Church, ...	Rev. John Kydd.

Appendix E.

Regulations of the College.

THE COLLEGE SESSION.

The College Session commences on the third Tuesday in October, and, in the Faculty of Arts and the School of Engineering, continues until the second Saturday in June; it is divided into three Terms.

The First Term of the Session 1878–9 commenced on Tuesday, October 15, and ended on December 21, 1878.

The Second Term will commence on January 6, and end on April 5, 1879.

The Third Term will commence on April 21, and end on June 14, 1879.

The First Term of the Session 1879–80 will commence on Tuesday, October 21, and end on Saturday, December 20, 1879.

In the Faculties of Law and Medicine the Session terminates at the end of April.

STUDENTS.

Students are either Matriculated, or Non-Matriculated.

Matriculated Students are required to pass an Entrance (or Matriculation) Examination, and to pursue fixed courses of study.

Non-Matriculated Students are permitted to attend the Lectures of any of the Professors, without being required to pass the Matriculation, or any other, Examination.*

MATRICULATION.

Candidates for Degrees or Diplomas in the Queen's University, or for Scholarships, Exhibitions, or Prizes, in Queen's College, Galway, are required to pass a Matriculation Examination.

Students are admitted by examination to Matriculation in the Faculties of Arts, Law, and Medicine, and in the School of Engineering. In each Faculty and School special courses are prescribed for examination.†

The Matriculation Examination is held at the commencement of the first Term of each Session; but additional Matriculation Examinations are held before the close of the Term.

The last Matriculation Examination for Students in the Faculty of Medicine is held on the 16th of November.

Each candidate, before being admitted to the Matriculation Examination, is required to pay to the Bursar the Matriculation and College fee of ten shillings. This fee will not be returned to students who may fail to pass the Examination; but such students may present themselves at any subsequent Examination without any additional payment.

Candidates for Matriculation are required, having previously paid the Matriculation and College Fee, to appear in the Registrar's office not later than ten o'clock on the day of the Matriculation Examination, for the purpose of entering their names on the College books.

Candidates for Matriculation, who have already matriculated in *another University*, are usually, on application to the Council, exempted from Examination in the subjects in which they have passed, on producing certificates of having passed in them, but they must present themselves in subjects for which credit has not been thus obtained; in *no other* case is total or partial exemption granted.

A fee of £2 is chargeable on official certificates signed by the Registrar that candidates have passed the Matriculation Examination; but such certificates are not required for Students attending Lectures in the College, or proceeding to the Queen's University.

ATTENDANCE ON LECTURES.

Attendance upon Lectures is strictly prescribed to all Matriculated Students.

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* For further particulars of the status and privileges of Non-Matriculated Students, *vide* p. 36.

† *Vide* pp. 39, 45, 51, 55.

Appendix E.

Regulations of the College.

All Students shall pay the College Fee, and their Class Fees, to the Bursar, and enter their names with the Registrar, before they are admitted to the classes of the several Professors.

The Registrar shall furnish to the Professors, before the commencement of Lectures in each Term, the rolls of their several classes, and from time to time such names as shall be afterwards entered with him.

Attendance on Lectures includes preparation for Lectures; and it is competent for a Professor, who, on any occasion, is not satisfied with the preparation of a Student, to refuse him credit for attendance.

Attendance upon Courses of Lectures in the Faculty of Arts is recognised in cases where Students pass to a different Faculty or School.

In case of absence arising from illness, or other unavoidable cause, the Student is required to lodge with the Registrar, immediately on recommencing his attendance, a letter or certificate explaining his absence to be laid before the Council.

EXAMINATIONS.

A General Sessional Examination is held at the close of each Session in the subjects upon which Lectures have been delivered during the Session. There is also a Supplementary Examination on the same subjects at the commencement of the following Session.

Every Matriculated Student in the Faculties of Arts and Law, and in the School of Engineering, must pass either the General, or the Supplementary, Examination, before his name can be entered on the College Register as having completed the Session; and no Student in these Faculties and Schools can be permitted to enter upon the Course of the succeeding year until he has so completed the previous Session.

No Student is admitted to the Sessional, or the Supplementary, Examination, who has not kept the Courses of Lectures prescribed to Students of his class and standing.*

SCHOLARSHIPS.

Forty-six Junior and eight Senior Scholarships have been founded in the College.

Of the Junior Scholarships†—

Thirty, of the value of £24 each, are tenable by Students pursuing the Course prescribed for the Degree of B.A.

Three, of the value of £20 each, by Students pursuing the Course for the Diploma of Elementary Law and the Degree of LL.B.

Eight, of the value of £25 each, by Students pursuing the Course for the Degree of M.D.

Five, of the value of £20 each, by Students pursuing the Course for the Degree of Bachelor in Engineering.

The Examinations for Junior Scholarships are held at the commencement of the First Term of the Session.

No Student is allowed to become a Candidate for a Junior Scholarship until he has paid the College Fee and one-half of the Class Fees for the current Session.

No Student is permitted to present himself as a Candidate for a Senior Scholarship who has not entered his name with the Registrar, and paid the College Fee to the Bursar.

All Senior Scholars in Arts are required to be in attendance in the College during their period of office.

Junior Scholars in any Faculty are exempted from the payment of one half of the Class Fees for the courses prescribed to Students of their faculty and standing.‡

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* For University Examinations, see the "University Regulations."

† For the distribution of these Scholarships, the subjects of Examination, and the conditions upon which they are held, *vide* pp. 42, 46, 52, 58.

‡ This exemption does not extend to the Honor Lectures of the third year, or to any course attended by them out of the order of studies laid down in the Curriculum, or to the course of Medical Jurisprudence.

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No Student is allowed to compete for a Junior Scholarship in any Course substantially the same as that in which he has already held a Scholarship or Exhibition.

No Scholarship will in any case be awarded, unless the Candidates are, in the opinion of the Examiners, sufficiently qualified in the prescribed courses.

EXHIBITIONS.

The College is empowered to award Exhibitions, varying in value from £12 to £20, at the same Examinations as the Scholarships, and to be held upon the same terms.

Exhibitioners are required to pay the whole amount of the Class Fees for the Session.

No Student is allowed to compete for an Exhibition in any course substantially the same as that in which he has already held a Scholarship or Exhibition.

All Junior Scholars and Exhibitioners are required to attend lectures, and pass the Sessional Examinations during their year of office.

PRIZES.

The College is empowered to award Prizes, by examination, at the close of the Session, to the most distinguished answerers in the several courses of study pursued during the Session.

Two prizes for English prose composition, and two prizes for Geometry,* have been founded in the College, to be awarded annually at entrance:—first prize for English prose composition, £3 worth of books; second do., £2 worth of books: first prize for Geometry, £3 worth of books; second do., £2 worth of books.

All Candidates for Scholarships, Exhibitions, or Prizes, must have passed the Matriculation Examination in the Faculty or School to which the Scholarships, Exhibitions, or Prizes, are attached.

NON-MATRICULATED STUDENTS.

Non-Matriculated Students are those who are permitted to attend the Lectures of any of the Professors without being required to pass the Matriculation, or any other, examination. They are required to pay to the Bursar the regulated Fees for the Classes proposed to be attended, and to sign an engagement to observe order and discipline in the College. They are not entitled to compete for Scholarships or other Collegiate distinctions.

During the term of their attendance on College Lectures they are admitted to read in the Library; and, on payment of a deposit of £1, are permitted to take out two volumes on loan, under the same regulations as Matriculated Students.

Every Non-Matriculated Student must pay his Class Fees to the Bursar before his name can be entered on the rolls of the several Classes.

STUDENTS OF OTHER UNIVERSITIES.

Any Student who shall have pursued part of his Collegiate Studies in any one of the Queen's Colleges, or in any University capable of granting Degrees in the several Faculties of Arts, Law, and Medicine, and any Legal, or Medical, Student, who shall have pursued part of his Legal, or Medical, Studies under teachers recognised by the Senate of the Queen's University, on passing such Examinations, and fulfilling such other conditions as the Council shall prescribe, may take corresponding rank in this College; and also may compete for Scholarships or other Prizes of the corresponding year, provided he shall not hold at the same time a Scholarship or other office of emolument in any other University, College, or Medical School.

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* Candidates are recommended to read M'Dowell's Exercises on Euclid and in Modern Geometry (Cambridge: Deighton, Bell, and Co., 1863), from beginning to page 150.

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Fees.

The College Fees payable by Matriculated Students are 10*s.* at the commencement of the first year, and 5*s.* at the commencement of each subsequent year.

The Fees, payable by Students, whether Matriculated or Non-Matriculated, to the several Professors for attendance on the several Pass Courses of Lectures or instruction, are £1 for each Course extending over one Term only, and £2 for each Course extending over more than one Term of a Session, when attended for the first time, and £1 for each re-attendance on the same.

This rule applies in all cases except the following:—

The Fee payable for the Course of Anatomy and Physiology is £3, when attended for the first time, and £2 for every subsequent attendance; and the Fee payable for Practical Anatomy, Practical Chemistry, Hebrew, or Sanskrit, is £3 for each attendance.

The Fee payable for attendance upon any Honor Course of Lectures in the third year, which Students are entitled to substitute for a prescribed Pass Course, or which they may *optionally* attend, is £3.

In all other cases the Fees payable for attendance upon Honor Courses of Lectures, and upon Courses of Special Instruction not prescribed as a qualification for a Degree or other University distinction, are £2 for each Course, whether attended for the first time or re-attended.

This rule does not apply to special instruction in Practical Chemistry. In this subject the Fee is regulated by the time spent in the laboratory, at the rate of £1 a month.

Matriculated Students who attend voluntary Courses are, so far as these Courses are concerned, regarded as Non-Matriculated.

Table showing in each case the *minimum* amount of Fees payable by Students to the College and for attendance on the several prescribed Courses of Lectures and Instruction.

—	First Session.	Second Session.	Third Session.	Fourth Session.
	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*	£ *s.* *d.*
For the Degree of B.A.,	9 10 0	7 5 0	8 5 0	—
If a Scholar,	5 0 0	3 15 0	4 5 0	—
For the Degree of M.D.,*	12 10 0	12 5 0	10 5 0	4 5 0
If a Scholar,	7 0 0	6 15 0	5 15 0	2 5 0
For the Diploma of Elementary Law,	4 10 0	4 5 0	2 5 0	—
If a Scholar in Law,	2 10 0	2 5 0	1 5 0	—
For the Degrees of LL.B. and LL.D.,	13 10 0	11 5 0	10 5 0	—
If a Scholar in Arts,	9 0 0	7 15 0	6 5 0	—
If a Scholar in Law,	11 10 0	9 5 0	5 5 0	—
For the Diploma of Civil Engineering,	10 10 0	10 5 0	8 5 0	—
If a Scholar,	5 10 0	5 5 0	4 5 0	—

All Fees, including the College Fee—which is 10*s.* for the first year, and 5*s.* for every subsequent year—and the Class Fees payable to the several Professors whose lectures are prescribed in the curriculum, are payable at the commencement of the First Term in which the Student enters. The Class Fee payable by a Junior Scholar in any Faculty for attendance on any course of lectures included in his curriculum, is one half of that payable by an ordinary student—except in the case of an Honor Course of the third year, for attendance on which the Fee is the same for *all* Students.

Residences.

It is provided by the Statutes that every Matriculated Student under the age of twenty-one years shall reside, during the College Terms, with

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* The Sums entered above are the Fees for the Classes usually taken.

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his parent or guardian, or with some relation or friend to whose care he shall have been committed by his parent or guardian, or in a Boarding-house, licensed by the President of the College, and arranged for the reception of Students, where he shall be placed under the moral care and spiritual charge of the Dean of Residences of his creed.

DISCIPLINE.

Every Matriculated Student is required to wear a cap and gown.

A penalty of sixpence shall be imposed on any Student who shall appear within the quadrangle without his cap and gown.

The Porter at the lodge is instructed to report to the Bursar the name of any Matriculated Student who shall appear within the quadrangle without his cap and gown, and also to intimate to the Student at the time that he will be reported.

Any Student so reported shall pay the fine to the Bursar within one week, without receiving further notice, and the fine shall be doubled every week that the fine remains unpaid.

A Professor or Lecturer may inflict a fine not exceeding 2*s.* 6*d.* on any Student for any breach of discipline in his class which he does not consider of sufficient importance to bring under the notice of the Council.

Members of the Library Committee may inflict a fine not exceeding 2*s.* 6*d.* on any Student, for any breach of discipline in the Library, which they do not consider of sufficient importance to bring under the notice of the Council.

LIBRARY REGULATIONS.

The Library is open from the commencement of the Session to the 1st of March, between the hours of 10 A.M. and 4 P.M., and from the 1st of March to the 1st of July, between the hours of 10 A.M. and 5 P.M., except (1) on College holidays; (2) for a period of five days in the Christmas and Easter recesses respectively.

The Library is closed during the month of July. From the 1st of August to the commencement of the College Session the Library is open between the hours of 11 A.M. and 3 P.M.

No Student is admitted to the Library without subscribing the following declaration:—

We the undersigned do hereby promise to the President and Council of the Queen's College, Galway, that we will not mark, turn down the leaves of, or write on paper placed upon, or in any way whatsoever soil, deface, injure, or remove, without permission, any book or document in the Library of said College. We also promise that we will not injure the Library furniture; that we will faithfully observe all the rules made for the regulation of the Library; and that we will acquaint the College Authorities with any serious instance of violation of the above rules which may come under our notice.

No Student can borrow books from the Library until he has deposited the sum of £1 with the Bursar.

No Student can have more than two volumes on loan from the Library at the same time.

No Student can retain a volume borrowed from the Library more than one week; but the borrower, on returning the book, may renew the loan, if the book has not been in the meantime applied for.

Any Student, on receiving at any time a notice from the Librarian, must return, within twenty-four hours, the books belonging to the Library in his possession.

Any person losing or injuring a book belonging to the Library must replace it by another copy of the same edition and of equal value, or pay such a sum of money as will enable the College to replace it.

FACULTY OF ARTS.

The Degrees of B.A. and M.A.

1.—*The Degree of Bachelor in Arts.*

Candidates for the Degree of B.A. in the Queen's University, must, on entering Queen's College, Galway, pass the following Matriculation Examination.

THE GREEK LANGUAGE.

Any one of the following which the Candidate may select:—

1. The Gospel of St. Luke.
2. The Gospel of St. John.
3. The Acts of the Apostles.
4. Euripedes—Hecuba.
5. Plato—Apologia Socratis.
6. Homer—Iliad, Book VI.
7. Xenophon—Anabasis, Books I. and II.

Note.—A paper will be set in Greek Grammar, touching on declensions, conjugations, and rules of Syntax.

THE LATIN LANGUAGE.

Any one of the following which the Candidate may select:—

Virgil—Æneid, Book I., or II., or VI.
Horace—Odes, Book I.; or Satires, Book I.
Sallust—Conspiracy of Catiline, or Jugurthine War.
Cæsar—Gallic War, Book I., or II., or III.

Note.—A paper will be set in Latin Grammar.

HISTORY, GEOGRAPHY, AND THE ENGLISH LANGUAGE.

History—Outlines of Grecian and Roman History.
Geography—Outlines of Ancient and Modern Geography.
English Language—English Grammar, and Composition.

MATHEMATICS.

Arithmetic—Including Vulgar and Decimal Fractions, the Rule of Three, Simple Interest, and the Extraction of the Square Root.

Algebra—Including Fractions, Proportion, and the Solution of Simple Equations.

Geometry—Euclid, Books I., II.

Students are admitted to the University Examination for this Degree who, after having passed the Matriculation Examination, have attended the College Lectures for at least two full terms in each Session, have passed the prescribed College Examinations, and are recommended for promotion to the Degree by the President of the College.

The Session extends from the third Tuesday in October to the second Saturday in the following June, with short recesses at Christmas and Easter. Each Session consists of three Terms.

The studies for the Degree of Bachelor in Arts extend over three Sessions, and comprise attendance on the following Curriculum:—

FIRST SESSION.

English (One Term).
Greek.
Latin.
A Modern Continental Language.
Mathematics.

SECOND SESSION.

Logic (One Term).
Natural Philosophy.

Along with any two of the following:—

Greek (Second Course).
Latin (Second Course).
A Modern Continental Language (Second Course).
Mathematics (Second Course).

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THIRD SESSION.*

English Language and Literature.
Metaphysics, or History, or Political Economy (Two Terms).
Chemistry.
Zoology, or Botany.

Attendance on these Courses includes passing such Examinations as may be appointed by the College Council, and the catechetical parts of the Courses of Lectures.

In each College there is a General Examination in the subjects upon which lectures have been delivered during the Session. There is also a Supplementary Examination in the same subjects, at the commencement of the following Session. All Students must pass either the General Examination or the Supplementary Examination, before they proceed with the course of the succeeding year.

Candidates for the Degree of Bachelor in Arts must reside at their respective Colleges during at least the first two Terms of each Session, but may be exempted from residence during the third Term by a special grace of the College Council.

Third year's Students may substitute attendance on one or on two Courses of Honor Lectures, for attendance upon a like number of the Courses above set down for study in the Third Session.

Under this regulation Candidates are at liberty to substitute one or two of the following Courses for a like number of the Courses set down above, for study in the Third Session, viz. :—

Greek,
Latin,
Pure Mathematics,
Mathematical Physics,
Experimental Physics,
Geology and Physical Geography,
French,
German,
Italian,
Logic,

provided that the rules of the College Council admit of their making this substitution, and provided further that the Courses substituted are Courses specially preparing Students for one or more of the Honor Examinations for the Degree of B.A.

Candidates are allowed under the same conditions to attend Honor Courses on two of the subjects, Metaphysics, History, and Political Economy, as two of the Courses of the Third Session. Candidates who avail themselves of this permission are at liberty to attend the third of these subjects as another Course of the Third Session.

A similar interpretation applies to the Courses of Botany and Zoology, which will count as two Courses of the Third Session, provided that one of them be an Honor Course, attended under the conditions stated above.

Candidates for the Degree of Bachelor in Arts are required to pass two University Examinations—the First Examination and the Degree Examination.

Students who have completed their second Session must pass the First Examination before rising to the third year, unless prevented by illness or other inevitable accident, in which case the Senate may admit them to a Supplementary Examination.

For the regulations as to the First University Examination in Arts, and the Examination for the Degrees of B.A. and M.A., see the "University Regulations."

For the Exhibitions awarded at the First University Examination in Arts, see p. 59.

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* The following regulation has been adopted by the Senate of the Queen's University:—"In future, Candidates for the Degree of B.A., who seek the Degree without Honors, will be examined at their Degree Examination in the subjects of the Courses attended by them in their Third Session."

DAYS AND HOURS OF LECTURES.

	Subjects.	Terms.	Mon.	Tues.	Wed.	Thurs.	Friday.	Sat.
1st Year	French,	1, 2, 3,	.	.	.	10	.	10
	German,	1, 2, 3,	.	10	.	.	10	.
	Latin (pass),	1, 2, 3,	12	.	12	.	12	.
	Greek (pass),	1, 2, 3,	.	12	.	12	.	12
	Mathematics (pass),	1, 2, 3,	1	.	1	.	1	.
	English,	1,	11	.	11	.	11	.
	Latin (honor),	1, 2, 3,	.	11	.	11	.	11
	Greek (honor),	1, 2, 3,	12	.	12	.	12	.
	Mathematics (honor),	1, 2, 3,	.	1	.	1	.	.
2nd Year	French,	1, 2, 3,	10	.	10	.	.	.
	German,	1, 2, 3,	.	12	.	12	.	.
	Greek,	1, 2, 3,	.	11	.	11	.	11
	Latin,	1, 2, 3,	11	.	11	.	11	.
	Mathematics (pass),	1, 2, 3,	.	1	.	1	.	.
	Natural Philosophy (pass),	1, 2, 3,	12	.	12	.	.	.
	Logic,	1,	1	.	1	.	1	.
	Mathematics (honor),	1, 2, 3,	12	.	12	.	12	.
	Natural Philosophy (honor),	1, 2, 3,	.	10	.	10	.	.
3rd Year	Zoology or Botany,	1, 2, 3,	.	11	.	11	11	11
	Chemistry,	1, 2, 3,	12	.	12	.	12	12
	English Language and Literature,	1, 2,	3	.	3	.	3	.
	Metaphysics,	1, 2,	.	1	.	1	.	1
	History,	1, 2,	2	.	2	.	2	.
	Logic,	1, 2,	.	12	.	12	.	12
	French,	–	.	.	.	11	.	11
	German,	–	.	11	.	.	11	.

JUNIOR SCHOLARSHIPS IN ARTS.

Of the Thirty Junior Scholarships appropriated to Students in the Faculty of Arts:—

Ten are tenable by Students of the		First Year.
Ten	,, ,,	Second Year.
Ten	,, ,,	Third Year.

Of the ten Junior Scholarships in Arts tenable by Students of each year, five are awarded for proficiency in literary studies, and five for proficiency in scientific studies; but it is competent for the Council, in case Scholarships in either department are withheld on the ground of insufficient answering, to assign the unawarded Scholarships to the other department.

The Examination for Junior Scholarships in Arts of the first year takes place immediately after the first Matriculation Examination of the Session, and is open to all Students of the first year, who have passed that Examination, and have paid the regulated fees. Those candidates to whom Scholarships are then awarded hold their Scholarships for one year.

There is a further Examination, at the commencement of the second year, which is open to all Matriculated Students in Arts of that year who have passed the Examination and attended the lectures prescribed to Students of the first year, and who have paid the regulated fees.

Those Candidates, to whom Scholarships are awarded at this further Examination, hold their Scholarships for two years, provided (1) they answer sufficiently in two Honor Courses at the Sessional Examination of the second year; (2) they pass the First University Examination for the Degree of B.A.

If any Student be placed, at the Examinations for Junior Scholarships in Arts, first on both the lists of candidates, he is entitled to a Scholarship of each division; but in no other case can two Scholarships be held by the same Student.

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SCHOLARSHIP EXAMINATIONS.—SESSION 1879–80.

Literary Scholarships, First Year.

THE GREEK LANGUAGE.

Homer—Iliad, Books II., III., and VI.
Euripides—Hecuba.
Xenophon—The Anabasis, Books II., III., and IV.
A piece of unprepared Greek from the Anabasis, the Cyropædia, or the Hellenics, of Xenophon.

Note.—A paper of questions will be set in Greek Grammar, touching upon declensions, conjugations, ordinary rules of Syntax, and idiomatic constructions.

THE LATIN LANGUAGE.

Virgil—The Æneid, Books I., II.
Horace—The Satires.
Livy—Books III. and IV.
A paper on Latin Grammar.

COMPOSITION.

In Greek, Latin, and English Prose.*

HISTORY AND GEOGRAPHY.

Grecian History, to the Death of Alexander.†
Roman History, to the Accession of Augustus.‡
Outlines of Ancient and Modern Geography.§

Observation.—The number placed opposite each subject in the following list shall be the standard mark, and no mark under one-fifth of the standard mark shall be taken into account in any subject:—

Greek, 200. Latin, 200. English, 100.

Science Scholarships, First Year.

MATHEMATICS.

Arithmetic:—

Including Vulgar and Decimal Fractions, the Rule of Three, Simple Interest, and the Extraction of the Square Root.

Algebra:—

Including the Solution of Simple and Quadratic Equations; Arithmetical and Geometrical Progressions; Permutations and Combinations; the Binomial Theorem; the nature of Logarithms.

Geometry:—

Euclid, Books I., II., III., IV., and VI., with definitions of Book V.

Plane Trigonometry:—

So far as to include the Solution of Triangles.

The use of Logarithmic and Trigonometrical Tables.

Literary Scholarships, Second Year.

THE GREEK LANGUAGE.

Homer—Iliad, Books X., XVI., XXII., and XXIII.
Æschylus—Agamemnon.
Sophocles—Ajax.
Euripides—Bacchæ.
Thucydides—Book VI.
A piece of unprepared Greek.

THE LATIN LANGUAGE.

Cicero—Philippics, 10–14.
Cicero—Letters to his brother Quintus, Book 1.
Tacitus—Histories, Book II.
Terence—Hecyra.
Plautus, Captivi.
Ovid—Metamorphoses, Book 13.
Catullus—Car. 64.
A piece of unprepared Latin.

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* Rev. T. K. Arnold's Introductory Works on Greek and Latin Prose Composition are recommended, and the last edition of Dr. Clyde's Handbook to Greek Syntax (Boyd, Edinburgh).

† Dr. William Smith's History of Greece is recommended.

‡ Liddell's Roman History is recommended.

§ Dr. William Smith's Handbook of Ancient Geography is recommended.

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THE ENGLISH LANGUAGE.

Bain's English Grammar.
Johnson's Vanity of Human Wishes.
Gray's Elegy and Bard.
Goldsmith's Traveller and Deserted Village.
Coleridge's Ancient Mariner.
(In Hales' "Longer English Poems.")
Macaulay's Essays on Clive and Hastings.

MODERN LANGUAGES.

(FRENCH OR GERMAN, OR BOTH LANGUAGES.)

French :—
Scribe—Bertrand et Raton ou l'art de conspirer.
Pellissler—Morceaux choisis des classiques français classe de rhétorique (the prose pieces).
Otto—French Grammar.
Translation from English into French.

German :—
Gutzkow—Zopf und Schwert (the first three acts.)
Otto—German Reader, part I.
Otto—German Grammar, part I.
Translation from English into German.

HISTORY AND GEOGRAPHY.

As in the First Year.

COMPOSITION.

In Greek, Latin, and English, Prose.

Observation.—The number placed opposite each subject in the following list shall be the standard mark, and no mark under one-fifth of the standard mark shall be taken into account in any subject. An absolute zero in one of the two modern languages shall not disqualify a candidate, provided he has obtained the minimum mark in the other modern language, but a candidate shall be disqualified who has not obtained the minimum mark for Greek, Latin, and one at least of the two modern languages:—

Greek 200.	French, 100.
Latin, 200.	German, 100.

SCIENCE SCHOLARSHIPS, SECOND YEAR.

MATHEMATICS.

The Course appointed for Science Scholarships of the first year.

Algebra :—
Nature and Simple Transformations of Equations; the Solution of Cubic and Biquadratic Equations; Method of Indeterminate Co-efficients.

Geometry :—
Elements of Solid Geometry.

Trigonometry :—
Plane and Spherical.

Analytic Geometry :—
Discussion of the Equations of the Right Line and Circle.

The Professor's Lectures to the Class of the First Year.

SENIOR SCHOLARSHIPS.

The College is empowered to award Seven Senior Scholarships, of the value of forty pounds each, by examination, to any Graduate in Arts of the Queen's University, of not more than three years' standing, whose answering is reported as meritorious, provided he shall not have previously obtained a Senior Scholarship in the same department in this or in either of the other Queen's Colleges. Of these Scholarships one is awarded for proficiency in each of the following departments :—*

1. The Greek and Latin Languages and Literature.
2. The Modern Languages, and Modern History.
3. Mathematics.
4. Natural Philosophy.
5. Metaphysical and Economic Science.
6. Chemistry.
7. Natural History.

* The Examinations for these Scholarships will commence on Friday, 24th October, with the exception of that in the Greek and Latin languages and Ancient History, which will be held at the close of the first Term.

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I.—GREEK AND LATIN LANGUAGES, AND ANCIENT HISTORY.

The Greek Language :—

Thucydides—Book III. and VI.
Æschines—De Falsâ Legatione.
Aristophanes — The Wasps, and The Knights.
Sophocles—Œdipus Rex.
Hesiod—Works and Days.
Translation from a passage of unprepared Greek.
Composition in Greek Prose.

The Latin Language :—

Cicero—Philippics.
Virgil—Æneid, VII. to XII.
Plautus—Aulularia.
Juvenal and Persius.
Catullus—Ellis' Selections
Lucretius, I. to III.
Ovid—Mett, 1 to 5.
Translations from unprepared Latin.
Composition in Latin Prose.

II.—MODERN LANGUAGES AND MODERN HISTORY.

The English Language :—

Chaucer—Prologue to the Canterbury Tales.
Shakspere—Hamlet, and Henry IV., Part I.
Bacon's Essays, 1 to 20.
Milton—Paradise Lost, Books I., II.
Dryden—Absolom and Achitophel.
Gray—The Elegy; The Bard; The Progress of Poesy.
Byron—Childe Harold, Cantos III. and IV.
Burke's Letters on a Regicide Peace.

The French Language:—

Molière—Le Misanthrope.
Racine—Britannicus.
French Classics—Gustave Masson, Vol. IV.
Geruzez Histoire Abrégée de la Littérature Française, Vol. I. deuxième et troisième période, page 208, to the end.
Cogery's Third French Course, pp. 1-104.
Brachet's Grammaire Historique de la Langue Française.
Translation from English into French.

The German Language :—

Schiller—Maria Stuart (the last three acts).
Goethe—Tasso (first two acts).
Goethe—Egmont (first two acts).
Archenholz—Geschichte des Siebenjährigen Krieges. *Zweiter Theil.*
Whitney—German Reader.
Weber—History of German Literature (during the life of Goethe).
Translation from English into German.

Modern History:—

History of Great Britain and Ireland from 1603 to 1815.
History of France during the same period.

III.—MATHEMATICS.

The Mathematical Course appointed for the Science Scholarship of the second year; theory of Algebraical Equations, including their numerical solution; Analytic Geometry of two and of three dimensions; Differential and Integral Calculus, including its application to Geometry.

IV.—NATURAL PHILOSOPHY.

Todhunter's Statics.
Tait and Steele's Dynamics.
Pirrie's Lessons on Rigid Dynamics.
Walton's Hydrostatical Problems.
Parkinson's Optics.
Hymer's Astronomy.
Jamin's Traité de Physique.
Lloyd's Lectures on the Wave Theory of Light.
The Professor's Lectures to the Honor Classes of the Third Year.

V.—METAPHYSICAL AND ECONOMIC SCIENCE.

Metaphysics :—

The Philosophical Systems of Descartes, Locke, Berkeley, and Kant.
Sir William Hamilton—Lectures on Metaphysics, XVI. to XL.
Mill—Examination of Sir William Hamilton's Philosophy, Lectures VIII. to XV., both inclusive.
Webb—Intellectualism of Locke.

Jurisprudence :—

Jurisprudence as treated in the Professor's Lectures.
Maine—Ancient Law.
Bentham—Theory of Legislation, by Dumont, translated by Hildreth.

Political Economy :—

Political Economy, as treated in the Professor's Lectures.
Mill—Principles of Political Economy; Review of Thornton on Labour, *Fortnightly Review*, June, 1869; Review of Cliffe Leslie's Land Systems, *Ib.*, June, 1870.
Cliffe Leslie—Financial Reform in Cobden Club Essays, 2nd Series; Method of Political Economy in *Hermathena*.
Thornton—On Labour, Books III., Chaps. 3, 4, and 5, and Book IV., Chaps. 1, 2, and 3.
Jevons—Money.

VI.—CHEMISTRY.

Theoretical Chemistry :—

Miller's Element of Chemistry (fifth edition).
Roscoe and Schorlemmer's Elements of Chemistry.
Watt's Dictionary of Chemistry.
Fownes' Chemistry (eleventh edition).

Practical Chemistry :—

Analysis, and an acquaintance with Manipulation, to the extent to which it is carried out in the *Practical Course* prescribed for Medical Students, will be considered the minimum. (Bowman's Introduction to Practical Chemistry is recommended.)

VII.—NATURAL HISTORY.

Sach's Text Book of Botany (translated).
Henfrey's Botany (second edition).
Rolleston's Animal Forms.
Huxley's Anatomy of Vertebrated Animals.
Nicholson's Zoology.
Practical Examinations in Botany and Zoology.

FACULTY OF LAW.

Diploma of Elementary Law.

Candidates for the Diploma of Elementary Law are required to pass a matriculation Examination in the following subjects :—

GREEK.

Xenophon—Anabasis, Book I.
Grammar; orally, and by paper.

LATIN.

One of the two following authors :—

Cæsar—Gallic War, Book V.
Virgil—Æneid, Book I.
Grammar; orally, and by paper.

HISTORY, GEOGRAPHY, AND THE ENGLISH LANGUAGE.

History—Outlines of Grecian and Roman History.
Geography—Outlines of Ancient and Modern Geography.
English Language—English Grammar and Composition.

Appendix E.

Regulations of the College.

MATHEMATICS.

Arithmetic—including Vulgar and Decimal Fractions, the Rule of Three, Simple Interest, and the Extraction of the Square Root.
Algebra—including Fractions, Proportion, and the Solution of Simple Equations.
Geometry—Euclid, Books I., II.

Students who have passed the Matriculation Examination, and have pursued, during three years, the following courses of study, are admitted to Examination for the Diploma of Elementary Law:—

FIRST YEAR.

The Law of Property and the Principles of Conveyancing.
Jurisprudence.

SECOND YEAR.

Equity and Bankruptcy.
Civil Law.

THIRD YEAR.

Common and Criminal Law.
Civil Law and Jurisprudence.

Candidates who shall have passed the First and Second Sessions of the curriculum for the Degree of B.A., before entering on their legal studies, will be admitted to the Examination for the Diploma after attending a two years' curriculum in Law, if recommended by the Council of their College. Other Candidates shall attend Law Courses for three Sessions before presenting themselves.

Candidates who intend to proceed to the Diploma after attending a two years' curriculum in Law will be required to attend, during each Session, Honor Courses of Lectures by each Professor, embracing all the subjects included in the curriculum for three Sessions.

JUNIOR SCHOLARSHIPS IN LAW.

Of the three Junior Scholarships appropriated to the Faculty of Law one is tenable by a Student of the First Year, one by a Student of the Second Year, and one by a Student of the Third Year.

SUBJECTS OF EXAMINATION.—FIRST YEAR.

LAW OF PROPERTY, &c.

Williams' Real Property.

JURISPRUDENCE AND CIVIL LAW.

Hallam's Middle Ages, Chaps. 2 and 8.
Review of Austin's Jurisprudence, by J. S. Mill (*Edinburgh Review*, October, 1863; or Mill's Dissertations and Essays, Vol. III.)
Maine's Ancient Law, Chaps. I., II., III., IV., and V.

SECOND YEAR.

All the business of the preceding Session.

EQUITY.

Smith's Manual of Equity Jurisprudence.

LAW OF PROPERTY, &c.

Williams' Personal Property; Smith's Lectures on the Law of Contract.

JURISPRUDENCE AND CIVIL LAW.

Jurisprudence as treated in the Professor's Lectures.
Sandars' Justinian, Introduction and Book I.
Maine's Ancient Law.
The Student's Austin's Jurisprudence, pp. 5 to 147.

THIRD YEAR.

All the business of the two preceding Sessions.

LAW.

Broom's Commentaries on the Common Law, Books II., III., and IV.
White and Tudor's Leading Cases in Equity, Vol. I.
Stephen on Pleading.

JURISPRUDENCE AND CIVIL LAW.

The same as the course for the second year, together with
Jurisprudence as treated in the Professor's Lectures.
The remainder of Sandars' Justinian.
The remainder of the Student's Austin's Jurisprudence.
Maine's History of Institutions.

THE DEGREES OF LL.B. AND LL.D.

Candidates for the Degree of LL.B. are admitted to Examination for that Degree from the Queen's University in Ireland, one year after they have obtained the Degree of B.A., and completed the above curriculum for the Diploma in Elementary Law.

Candidates for the Degree of LL.D. are admitted to Examination for that Degree from the Queen's University in Ireland, at the expiration of two years after they have obtained the Degree of LL.B.

SENIOR SCHOLARSHIP.

The College is empowered to award one Scholarship of the value of forty pounds, by Examination, to the most distinguished Student who shall have proceeded to the Degree of B.A., and who shall have attended during three Sessions, and have completed the Course of legal study herein prescribed to Students of the first, second, and third Sessions. The following is the course prescribed for Examination:—

JURISPRUDENCE AND CIVIL LAW.

The same as the course in these subjects for the third year's Scholarship, substituting for the Student's Austin,
Austin's Jurisprudence, by Campbell.

PRINCIPLES OF CONSTITUTIONAL AND INTERNATIONAL LAW.

Broom's Constitutional Law.
Wheaton's International Law—*(English Edition, by Boyd).*

ENGLISH LAW.

All the business of the preceding Sessions, together with
Smith's Leading Cases in Law.
White and Tudor's Leading Cases in Equity, vol. 2.
Best on Evidence.
Archbald's Consolidated Criminal Statutes.

The Senior Scholar will be required to attend, during his year of office, Courses of Lectures on Evidence and Pleading, and on Colonial and Constitutional Law.

PRIVILEGES OF LAW STUDENTS.

Students intending to proceed for the Certificate of the Law Professors, so as to entitle them to serve an apprenticeship of *four* years instead of *five*, under the provisions of *an Act for amending the several Acts for the Regulations of Attorneys and Solicitors* (14 and 15 Vict., cap. 88), are required to enter their names with the Registrar, *either as Matriculated or Non-Matriculated* Students, and pay the necessary College and Class Fees to the Bursar before the commencement of the Law Lectures in each Session.

Such Students are required to attend all the Lectures and pass all the Examinations prescribed for the first and second years of the course of study for candidates for the Diploma of Elementary Law.

FACULTY OF MEDICINE.

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DEGREES OF M.D. AND M.CH.

Regulations of the College.

Each Candidate for the Degree of Doctor in Medicine, or Master in Surgery, is required—

1. To have passed in one of the Colleges of the Queen's University the Entrance Examination in Arts, and to have been admitted a Matriculated Student of the University.
2. To have attended in one of the Queen's College, Lectures on one Modern Continental Language for six months, and Lectures on Natural Philosophy for six months.
3. To have also attended, in some one of the Queen's Colleges, at least two of the courses of Lectures marked with an asterisk in the following list. For the remainder of the courses, authenticated certificates will be received from the Professors or Lecturers in Universities, Colleges, or Schools, recognised by the Senate of the Queen's University in Ireland.†
4. To pass three University Examinations—the First University Examination, the Second University Examination, and the Degree Examination.‡

The curriculum shall extend over at least four years, and shall be divided into periods of at least two years each.

Candidates are recommended to pass the Matriculation Examination, prior to entering on the second period.

It is recommended that the first period shall comprise attendance on the following courses of medical lectures:—

*Chemistry.
*Botany with Herborizations for practical study, and Zoology.
*Anatomy and Physiology.
*Practical Anatomy.
*Materia Medica and Pharmacy.

And that the second period shall comprise attendance on the following courses of medical lectures:—

Anatomy and Physiology (*second course*).
Practical Anatomy (*second course*).
*Theory and Practice of Surgery.
*Midwifery.
*Theory and Practice of Medicine.
*Medical Jurisprudence.

In addition to the above courses of lectures, candidates shall have attended, during either the first or second period—

A Modern Continental Language (in one of the Colleges of the University).
Experimental Physics (in one of the Colleges of the University).

Also, during the first period—

Practical Chemistry (in a recognised Laboratory).

Medico-Chirurgical Hospital (recognised by the Senate), containing at least sixty beds; together with the clinical lectures therein delivered, at least two each week—a winter session of six months.

And during the second period—

Practical Midwifery, at a recognised Midwifery Hospital, with the clinical lectures therein delivered, for a period of three months; or a Midwifery Dispensary for the same period; or ten cases of Labour under the superintendence of the Medical Officer of any hospital or dispensary where cases of labour are treated.

Medico-Chirurgical Hospital (recognised by the Senate), containing at least sixty beds; together with the clinical lectures therein delivered—eighteen months; including either three winter sessions of six months each, or two winter sessions of six months each, and two summer sessions of three months each.

Medical Examinations are held in June and in September and October.

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† For a list of such, see p. 54.

‡ The attention of students is directed to the following Regulation of the Senate:—"After the 1st day of January, 1874, no candidate for the Degree of Doctor of Medicine will be allowed to postpone his University Examination in Modern Languages or in Experimental Physics until such time as he shall present himself for final Examination for that Degree."

Appendix E.

Regulations of the College.

The June Examinations are Pass Examinations: those held in September include both Honor and Pass Examinations.

Each candidate for examination in June must forward to the Secretary, on or before the first of June, notice of his intention to offer himself as a candidate, along with his certificates; and each candidate for examination in September or October must forward similar notice, along with his certificates, on or before the first of September.

THE FIRST UNIVERSITY EXAMINATION IN MEDICINE.

The First University Examination may be passed either in June or September. It comprises the following subjects:—A Modern Language, Experimental Physics, Zoology and Botany.

It is competent for Students to present themselves for examination in this group of subjects at any time after the close of the First Winter Session.

Before being admitted to examination, each candidate must produce satisfactory evidence of having completed the prescribed courses of study in the subjects of examination.

The portions of Zoology to be prepared are—

- *a.* The general characters of the classes of the Animal Kingdom.
- *b.* The first principles of Animal Physiology.
- *c.* The comparative Anatomy and Classification of either the *Vertebrate* or the *Invertebrate* Animals—whichever is selected by the candidate.
- *d.* A special practical knowledge of the leading characters and classification of either some one Vertebrate class, or some one Invertebrate sub-kingdom.

In Botany Candidates will be examined in the general principles of Vegetable Structure and Organography. They will also be expected to possess a practical acquaintance with the characters of the following natural orders, viz.:—Ranunculaceæ, Cruciferæ, Rosaceæ, Leguminosæ, Umbelliferæ, Compositæ, Scrophulariaceæ, Solanaceæ, Boraginaceæ, Labiatæ, Euphorbiaceæ, Cupuliferæ, Coniferæ, Aroideæ, Orchideæ, Liliaceæ, and Gramineæ.

Henfrey's Elementary Course of Botany is recommended as the Text-Book.

English Composition forms a part of all University Examinations.

Competitors for Honors will be examined in all the subjects of the First University Examination, including Experimental Physics and Modern Languages. The candidates who pass with Honors will be arranged in two classes: they will receive Prizes and Certificates of Honor.

Two Exhibitions, one consisting of two instalments of £20 each, the other of two instalments of £15 each, will be awarded to the best answerers at the Honor Examinations, if they be recommended by the Examiners as possessed of sufficient absolute merit. Further regulations regarding these Exhibitions will be found in p. 60.

Both Honor and Pass Examinations are held in September. The Examination held in June is a Pass Examination.

THE SECOND UNIVERSITY EXAMINATION IN MEDICINE

The Second University Examination may be passed either in June or September. It comprises the following subjects:—Anatomy, Physiology, Materia Medica, and Chemistry to which will be added Zoology and

Appendix E. Regulations of the College.

Botany in the examination of Candidates who have not previously passed the First University Examination. Candidates who are in this position will be allowed either to undergo their Examination in Modern Languages and Experimental Physics as a part of the Second University Examination, or may present themselves for Examination in these subjects at any time between the Second University Examination and the Degree Examination.

It is competent for students to present themselves for the Second University Examination at the termination of the First Period of the Curriculum, or at any subsequent period; but no Student will be allowed to postpone his Second University Examination until the time when he presents himself for his Degree Examination, unless the Senate shall have passed a grace giving him permission to do so.

Before being admitted to Examination, each candidate must produce satisfactory evidence of having completed the course recommended for study during the First Period of the Curriculum.

Both Honor and Pass Examinations are held in September. The Examination held in June is a Pass Examination.

DEGREE EXAMINATIONS IN MEDICINE.

Examinations for the Degree of M.D. and M.Ch., and the Diploma in Midwifery will be held in June and September.

The Fee for each Degree is Five Pounds, and the Fee for the Diploma in Midwifery is Two Pounds, and must be lodged with the Secretary before the Examination begins.

Each Candidate must be recommended by the President of his College, and produce certificates to the following effect:—

1. A certificate from the Secretary of the Queen's University, that he has passed the Previous Examinations, unless the Senate has passed a grace permitting the candidate to present himself for the Examinations simultaneously.
2. From the Council of his College, that he has passed a full Examination in the subjects of study prescribed in the entrance Course of the Faculty of Arts, and has been admitted a Matriculated Student in the Faculty of Medicine.
3. That he has attended in the Colleges of the Queen's University two of the courses marked with an asterisk on p. 48, and also lectures on one Modern Language, and lectures on Experimental Physics.
4. Certificates that he has completed all other prescribed courses.

The Examination for the Degree of M.D. comprises the subjects recommended for study during the second period of Medical Education.

The Examination for the Degree of M.Ch. comprises an examination in the Theory and Practice of Surgery, including Operative and Clinical Surgery.

The Examination for the Diploma in Midwifery comprises an Examination in the Theory and Practice of Midwifery and the use of obstetrical instruments and appliances.

The Degree of M.CH. and the Diploma in Midwifery are only conferred on those who have taken the Degree of M.D. in the Queen's University.

Candidates who graduate with Honors will be arranged in two classes. Candidates who take a First Class will receive a Medal and Prize. Candidates who take a Second Class will receive a Prize and Certificate of Honor.

Both Honor and Pass Examinations are held in September. The Examination held in June is a Pass Examination.

Appendix B.

Regulations of the College.

MATRICULATION.

Candidates for the Degree of M.D. in the Queen's University are required to pass a Matriculation Examination in the following subjects :—

GREEK.

Xenophon—The Anabasis, Book I., or Gospel of St. John—whichever is selected by the candidate.
Grammar; orally, and by paper.

LATIN.

One of the two following authors—whichever is selected by the candidate :—
Virgil—Æneid, Book I.
Cæsar—Gallic War, Book V.
Grammar; orally, and by paper.

ENGLISH.

Grammar and Composition.

HISTORY AND GEOGRAPHY.

History :—
Outlines of Grecian and Roman History.*

Geography :—
Outlines of Ancient and Modern Geography.†

MATHEMATICS.

Arithmetic—Including Vulgar and Decimal Fractions, the Rule of Three, Simple Interest, and the Extraction of the Square Root.
Algebra—Including Fractions, Proportion, and the Solution of Simple Equations.
Geometry—Euclid, Books I., II.

DAYS AND HOURS OF LECTURES.

	Subjects.	Months.	Mon.	Tues.	Wed.	Thurs.	Friday.	Sat.
1st Period.	French,	VI.	9	.	9	.	.	.
	German,	VI.	.	10	.	.	10	.
	Botany and Zoology,	VI.	.	11	.	11	.	11
	Experimental Physics,	VI.	.	12	.	12	.	.
	Chemistry,	VI.	12	.	12	.	12	12
	Logic,		1	.	1	.	1	.
	Anatomy and Physiology,		3	3	3	3	3	.
	Practical Anatomy,		1	1	1	1	1	.
	Practical Chemistry,		2	.	2	.	2	.
	Materia Medica,	.	.	2	.	2	.	2
2nd Period.	Practical Anatomy,	.	1	1	1	1	1	.
	Anatomy and Physiology,		3	3	3	3	3	.
	Surgery,		11	.	11	.	11	.
	Midwifery,		2	.	2	.	2	.
	Medicine,		.	2	.	2	.	2
	Medical Jurisprudence,		12	.	12	.	12	.

Opportunities for Hospital attendance and Clinical Instruction are afforded to Students in the County Infirmary and Town Hospitals, which are in the immediate vicinity of the College. Clinical Lectures are given on Tuesdays and Fridays, and Practical Instruction on the other days of the week, at 10, A.M. All communications respecting the Hospitals should be addressed to the Secretary of the Clinical Board, to whom is payable a fee of four guineas for each year's attendance.

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* Chepmell's Short Course of History is recommended.
† Rev. T. K. Arnold's Handbooks are recommended.

AppendixE.

Regulations of the College.

REGULATIONS RESPECTING MEDICAL SCHOLARSHIPS AND EXHIBITIONS.

Of the eight Junior Scholarships appropriated to the Faculty of Medicine, two are tenable by Students of the First Year, two by Students of the Second Year, two by Students of the Third Year, and two by Students of the Fourth Year.

All Scholars and Exhibitioners are required to pass the Sessional Examination.

FIRST YEAR'S SCHOLARSHIPS.

All Students who have passed the Matriculation Examination may compete for the Scholarships of the first year.

For one Scholarship the course is the same as that prescribed for the Literary Scholarships of the first year, in the Faculty of Arts.*

For the other Scholarship the course is the same as that prescribed for Science Scholarships of the first year, in the Faculty of Arts.*

If at either of these Examinations a competent candidate do not present himself, the Scholarship assigned to that department may be awarded to the other department, if there be in the latter a second candidate duly qualified.

A Student to whom a Scholarship of the first year has been awarded, shall attend the following courses:—

A Modern Language.
Natural Philosophy.
Anatomy.
Chemistry.
Botany and Zoology.

SECOND YEAR'S SCHOLARSHIPS.

To be allowed to compete for a Scholarship of the second year, a Student must be of not more than one year's standing in some school recognised by the Senate of the Queen's University.

A Candidate may select for the subjects of his Examination any four of the following subjects, of which Practical Anatomy must be one. The number placed opposite each subject in the following list shall be the standard mark, and no judgment under one-fifth of the standard mark shall be taken into account in any subject:—

Practical Anatomy,	1,000
Anatomy and Physiology,	500
Chemistry,	1,000
Botany,	500
Zoology,	500
A Modern Language,	500
Natural Philosophy,	500

SUBJECTS OF EXAMINATION.

FRENCH.†

The Modern French Reader (Junior Course), by Cassal and Karcher (London: Trübner and Co.).

Translation from English into French (from Otto's French Grammar).

GERMAN.†

Otto: German Reader, part I.

German Grammar. Otto's German Grammar, to page 266 (Syntax).

NATURAL PHILOSOPHY.—Elements of Mechanics, Hydrostatics, Pneumatics, Acoustics, Optics, Heat, Electricity, Galvanism, and Magnetism.

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* See p. 42.

† The candidate may select either French or German.

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Regulations of the College.

Zoology.—Vertebrata. Practical Examination.

Botany.—Structural and Physiological Botany; Principles of Classification; Characters of the Natural Orders yielding medicinal plants. Practical Examination.

Anatomy and Physiology.—Cartilage, Bone, the Fibrous Tissues, Muscle, Nerve, Integument and Appendages, Secretion, Digestion, and Reflex Action.

Practical Anatomy.—Osteology and Arthrology, also the Myology of the limbs.

Candidates may be examined on specimens placed before them.

Chemistry.—General Principles of Chemical Philosophy; Laws of Combination by weight and volume; Atomic Theory; Nature of Salts, &c.; Chemistry of non-metallic bodies; Chemistry of Metals; Organic Chemistry.

A Student to whom a Scholarship of the second year has been awarded shall attend such of the medical courses assigned to the first period of the curriculum prescribed in the University regulations as he has not already taken. He shall also take a course of Modern Languages, and of Natural Philosophy, if he have not previously done so in a Queen's College.

Third Year's Scholarships.

To be allowed to compete for a Scholarship of the third year, a Student must have attended, in some medical school recognised by the Senate of the Queen's University, four of the following courses:—

Anatomy and Physiology.
Chemistry.
Botany.
Zoology.
Practical Chemistry.
Practical Anatomy.
Materia Medica.

And must not be of more than two years' standing.

The Examination shall include the following subjects. The number placed opposite each subject in the following list shall be the standard mark; and no mark under 300 in any one shall be taken into account:—

Anatomy and Physiology, ...	1,000
Practical Anatomy, ...	1,000
Materia Medica and Therapeutics, . .	1,000
Practical Chemistry, ...	1,000

SUBJECTS OF EXAMINATION.

Anatomy and Physiology. — Organs and Functions of Digestion, Absorption, Circulation, Respiration, and Urination, together with the Blood and its Elaboration.

Practical Anatomy.—Joints, Muscles, Vessels, Viscera, and Brain.

During the Examination, Candidates may be called on to make dissections, or to describe structures placed before them.

Materia Medica.—The Medicines and Compounds in the British Pharmacopœia. Candidates will be required to identify specimens.

Practical Chemistry.—As taught in the class.

A Student to whom a third year's Scholarship has been awarded shall attend, during the year of his election, four at least of the courses prescribed for the second period in the University regulations.

Fourth Year's Scholarships.

To be allowed to compete for a Scholarship of the fourth year, the candidate must have attended, in some school recognised by the Senate of the Queen's University, all the strictly professional courses of the first

Appendix E.

Regulations of the College.

period, and must have attended three at least of those of the second period prescribed in the regulations of the Queen's University, and must not be of more than three years' standing.

A candidate for fourth year's Scholarship may choose any four of the following subjects as those in which he shall be examined, provided Anatomy and Physiology be one, and that he have attended lectures on the other three. The number assigned to each subject in the following list shall be the standard mark, and no mark under 300 shall be taken into account :—

Anatomy and Physiology,	1,000
Theory and Practice of Surgery,	1,000
Midwifery and Diseases of Women and Children,	1,000
Theory and Practice of Medicine,	1,000
Medical Jurisprudence,	1,000
Materia Medica and Therapeutics,	1,000

SUBJECTS OF EXAMINATION.

PHYSIOLOGY.—The whole of Physiology, Histology, and Development.

THERAPEUTICS.—Physiological action and Therapeutical effects of the following substances :—Iron, Mercury, Iodine, Arsenic, Aconite, Opium, Digitalis, Alcohol, Nux Vomica, Cinchona. Candidates will be required to write prescriptions.

MEDICAL JURISPRUDENCE.—Toxicology.

MEDICINE.—Diseases of the Heart and Lungs.

SURGERY.—Diseases of Joints ; Wounds.

MIDWIFERY.—Normal Labour ; diseases of parturient women ; the principal diseases of women.

A Student, to whom a Scholarship of the fourth year has been awarded, shall attend during the year of his election two at least of the following courses, viz., Medicine, Surgery, Midwifery, Medical Jurisprudence ; and if more courses are required to complete the curriculum, both as to professional and non-professional subjects, he shall also attend them.

INSTITUTIONS FROM WHICH THE UNIVERSITY RECEIVES CERTIFICATES FOR DEGREES IN MEDICINE.

IRELAND.

The QUEEN'S COLLEGES in IRELAND.
BELFAST.—Belfast General Hospital.
CORK.—Cork North Infirmary.
  Cork South Infirmary.
GALWAY.—County Galway Infirmary and Town Hospitals.
DUBLIN.—University of Dublin.
  Royal College of Surgeons.
  Carmichael School.
  Cecilia-street School.
  Peter-street School.
  Rotundo Hospital (for Midwifery).
  School of Dr. Steevens's Hospital.

DUBLIN.—Adelaide Hospital.
  City of Dublin Hospital.
  Sir Patrick Dun's Hospital.
  Jervis-street Hospital.
  Mater Misericordiæ Hospital.
  Meath Hospital.
  Mercer's Hospital.
  Richmond, Whitworth, and Hardwicke Hospitals.
  Dr. Steevens's Hospital.
  St. Vincent's Hospital.
  Coombe Lying-in Hospital.
  Rotundo Lying-in Hospital.

ENGLAND.

BATH.—Bath United Hospital.
BEDFORD.—General Infirmary and Fever Hospital.
BIRMINGHAM.—Queen's College. General Hospital. Sydenham College.
BRISTOL.—Medical School. Infirmary. St. Peter's Hospital. General Hospital.
CAMBRIDGE.—University Medical School and Addenbrooke's Hospital.
EXETER.—Devon and Exeter Hospital.
HASLAR.—The Royal Naval Hospital.
HULL.—Hull and E. R. of York School of Medicine, &c.
LEEDS.—School of Medicine. General Infirmary.
LEICESTER.—Leicester Infirmary.
LIVERPOOL.—Royal Infirmary School of Medicine. Royal Infirmary. Fever Hospital. Northern Hospital. Royal Southern Hospital.

London.—University College.
King's College.
London Hospital.
Middlesex Hospital.
Charing Cross Hospital.
St. Thomas's Hospital.
St. Bartholomew's Hospital.
Westminster Hospital.
Guy's Hospital.
St. George's Hospital.
The Physicians of the St. Marylebone Infirmary.
The Royal College of Chemistry.
St. Mary's Hospital, Paddington.
Brompton Hospital for Consumption, for Three Months' Medical Hospital Practice.
Royal South London Dispensary.
Carey-street Dispensary.
Manchester.—Royal School of Medicine and Surgery.
The Union Hospital. The Royal Infirmary.
School of Medicine in Chatham-street.
Owen's College, for Instruction in Chemistry.
Newcastle-upon-Tyne.—College of Medicine in connexion with the University of Durham.
College of Medicine and Practical Science.
The Infirmary.
Northampton.—The General Infirmary.
Norwich.—Norfolk and Norwich Hospital.
Nottingham.—The General Hospital.
Sheffield.—The Sheffield Medical Institution.

SCOTLAND.

Aberdeen.—King's College and University. Royal Infirmary.
Edinburgh.—University of Edinburgh. Medical and Surgical School, Surgeon's Hall. Royal Infirmary.
Glasgow.—University of Glasgow. Andersonian Institution. Royal Infirmary.

Non-Matriculated Students.

Any course or courses of lectures may be attended by Non-Matriculated Students, without passing any examination, on paying the regulated class fee to each Professor whose lectures they attend. Such Students are admissible to the Library on payment of a fee of Five Shillings for the year.

SCHOOL OF CIVIL ENGINEERING.

Candidates for the Degree of Bachelor in Engineering are required:—

1. To have been admitted Matriculated Students of one of the Colleges of the Queen's University in the Department of Civil Engineering.
2. To have studied in the Colleges of the Queen's University the course herein prescribed.
3. To have passed two University Examinations.

Candidates for Matriculation are examined in the following subjects:—

MATHEMATICS.

Arithmetic:—

Including Vulgar and Decimal Fractions, the Rule of Three, Simple Interest, and the Extraction of the Square Root.

Algebra:—

Including Fractions, Proportion, and the Solution of Simple Equations.

Geometry:—

Euclid, Books I., II., III., VI., with Definitions of Book V.

Regulations of the College.

HISTORY, GEOGRAPHY, AND THE ENGLISH LANGUAGE.

History :—

Outlines of Ancient History.

Geography :—

Outlines of Ancient and Modern Geography.

English Language :—

English Grammar and Composition.

The course for the Degree of Bachelor in Engineering usually extends over Three Sessions, and comprises attendance on the following curriculum:—

FIRST SESSION

Mathematics (first course).
Chemistry.
A Modern Language.
Geometrical Drawing.
Office Work.

SECOND SESSION.

Mathematics (second course).
Mathematical Physics.
Experimental Physics.
Civil Engineering.
Office Work.
Field Work.

THIRD SESSION.

Natural Philosophy (applied).
Civil and Mechanical Engineering.
Mineralogy, Geology, and Physical Geography.
Office Work.
Field Work.
Engineering Excursions.

Attendance on these courses in all cases includes passing such Examinations as may be appointed by the College Council, as well as the catechetical parts of the courses of lectures.

Engineering Students must reside at their respective Colleges during at least the first two Terms of each Session, and can be exempted from residence during the third Term also, only by a special grace of the College Council.

The study of the Engineering Curriculum may be extended over more than three Sessions, on the recommendation of the College Council, and under such regulations as the Council shall impose. Some relaxation of the order in which the subjects shall be studied will be admitted, on the recommendation of the Council.

Candidates will, on the special recommendation of the College Council, be admitted to the Degree after two years' residence instead of three, if their previous acquaintance with a sufficient group of the subjects above set down for study in the first and second Sessions is deemed by the Council satisfactory. In such cases the certificate of the Council will be accepted in lieu of attendance upon these courses, but will not exempt candidates from the University Examinations in them.

Candidates for the Degree of Bachelor in Engineering are required to pass two University Examinations,—the First University Examination and the Degree Examination, both of which are held in the Hall of the University in Dublin.

Students who have completed their second Session must attempt the First University Examination before rising to the third year, unless prevented by illness or other inevitable accident, in which case the Senate may admit them to a Supplementary Examination.

Appendix E. Regulations of the College.

Candidates who have attempted, but failed to pass, the First University Examination in October, will be admitted to a Supplementary Examination.

First University Examination in Engineering.

The course for the First University Examination includes French; Geometrical Drawing; Mathematics (first course); Mathematics (second course); Mensuration, Levelling, and Mapping; Experimental Physics.

Each candidate must forward to the Secretary, on or before the 1st of October, notice of his intention to offer himself as a candidate, and will thereupon receive intimation of the days upon which his Examination will be held.

The candidates who pass with Honors will be arranged in two classes, the names in each class being placed alphabetically.

Two Exhibitions, one of the annual value of £20 for two years, the other of the annual value of £15 for two years, will be competed for at the Honor Examination. For the regulations regarding these Exhibitions see p. 60.

Examination for the Degree of Bachelor in Engineering.

The Examination for the Degree in Civil Engineering will embrace the following course:—Engineering, in all its branches; Mensuration, Levelling and Mapping; Mathematical Physics; Natural Philosophy, applied; Chemistry; Mineralogy, Geology, and Physical Geography. Each candidate will also be required to produce at this Examination the Field-notes and Drawings of a Survey made by him.

Candidates who have completed the Engineering Course may present themselves as candidates for the Degree, either with Honors or without Honors.

The Examinations for the Degree of Bachelor in Engineering are held in September and October.

Each Candidate must forward to the Secretary, on or before the 1st of September, notice of his intention to offer himself as a candidate, and will thereupon receive intimation of the days upon which his Examination will be held.

The candidates who pass with Honors will be arranged in two classes; the names in each class will be placed alphabetically.

Candidates who take a First Class will receive a Medal and Prize.

Candidates who take a Second Class will receive a Prize.

Candidates are recommended to provide themselves with drawing instruments and materials, viz. :—a T square; pair of set squares; pair of compasses, with pen and pencil legs; drawing-pen; 12-inch scale, divided on one edge decimally to two chains to an inch, and on the other side, duodecimally to five feet to an inch; an offset scale 20 and 40; also pencils, papers, colours, &c.

Appendix E.

Regulations of the College.

Days and Hours of Lectures.

	Subjects.	Terms.	Mon.	Tues.	Wed.	Thurs.	Friday.	Sat.
1st Year	French,	1, 2, 3,	.	.	.	10	.	10
	German,	—	.	10	.	.	10	.
	Chemistry,	1, 2, 3,	12	.	12	.	12	.
	Mathematics (pass),	1, 2, 3,	1	.	1	.	1	.
	Mathematics (honor),	1, 2, 3,	.	1	.	1	.	.
	Geometrical Drawing,	1, 2, 3,	11	.	11	.	11	.
	Office Work,	1, 2, 3,	2	.	2	.	2	.
2nd Year	Civil Engineering,	1, 2, 3,	1	.	1	.	1	.
	Office Work,	1, 2, 3,	2	.	2	.	2	.
	Mathematical Physics (pass),	.	12	.	12	.	.	.
	Experimental Physics (pass),	1, 2, 3,	.	12	.	12	.	.
	Experimental Physics (honor),	1, 2, 3,	11	.	11	.	.	.
	Mathematical Physics (honor),	1, 2, 3,	.	10	.	10	.	.
	Mathematics (honor),	1, 2, 3,	12	.	12	.	12	.
	Mathematics (pass),	1, 2, 3,	.	1	.	1	.	.
3rd Year	Geology and Mineralogy,	1, 2, 3,	1	.	1	.	1	.
	Civil Engineering,	1, 2, 3,	12	.	12	.	12	.
	Office Work,	1, 2, 3,	2	.	2	.	2	.
	Natural Philosophy (applied),	1, 2, 3,	.	11	.	11	.	.

SCHOLARSHIPS.

Of the five Scholarships appropriated to the Department of Engineering, two are tenable by Students of the first year, two by Students of the second year, and one by a Student of the third year.

Subjects of Examination—First Year.

The course prescribed for Science Scholarship of the first year in the Faculty of Arts.

For this course, see p. 42.

Second Year.

The course of Elementary Mathematics prescribed for the Science Scholarship of the second year, in the Faculty of Arts, and Modern Languages as prescribed for Literary Scholarship of second year in Arts, together with the courses of Chemistry, Office Work, and Geometrical Drawing prescribed in the course for Students in Engineering of the first year.

Third Year.

The courses of Mathematics, Mathematical, and Experimental, Physics, Mineralogy and Geology, Engineering and Office Work, prescribed to Honor Students of the second year.

Indian Engineering Establishment.

The following notice has been issued by order of the Secretary of State for India, in Council:—

"India Office, September 27th, 1871.

"Notice is hereby given that appointments to the Indian Public Works Department, of Assistant Engineer, second grade, salary, 4,200 rs. (about £420) per annum, will be available in 1874 for such Candidates as may be found duly qualified."

Candidates who seek appointments in the Public Works Department in India must pass two Public Examinations; the first, a competitive examination, conducted by the Civil Service Commissioners, and called the Entrance Examination to the Cooper Hill College; the second, a qualifying examination, three years subsequently. No attendance at Cooper's Hill College is requisite for the above appointments.

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Regulations of the College.

APPENDIX.

PRIZES FOUNDED BY PUBLIC SUBSCRIPTION.

At a public meeting of the University in October, 1861, Sir Robert Peel offered the sum of £1,200 to found three exhibitions[*] of £40 each, to be competed for annually for ten years; and he expressed his desire that these prizes should be tenable along with the small Scholarships attached to the Queen's Colleges, in order that his benefaction might have the effect of increasing the value of the rewards provided for the most deserving students.

When announcing this munificent gift, Sir Robert Peel invited others to co-operate with him in thus endeavouring to promote United Education, without adding to the burden on the public purse; and his invitation met with so ready a response, that it became necessary to form a Committee, which should take charge of the subscriptions, and make regulations for the proper allocation of the funds. This Committee consisted of Sir Robert Peel, Bart., M.P. (*Chairman*); the Duke of Leinster; the Lord Talbot de Malahide, F.R.S.; the Right Honorable Abraham Brewster, M.A., Q.C.; Sir James Emerson Tennent, LL.D.; James Naper, D.L.; Alexander Thom, Esq.; Sir Benjamin Lee Guinness, Bart.; William Malcomson, Esq.; and G. Johnstone Stoney, M.A., F.R.S. (*Honorary Secretary*).

Prizes which have been founded.

This munificence on the part of the public has enabled the Committee to found the following prizes, to be competed for annually for ten years; and to place at interest a considerable sum[†], which will accumulate and form the nucleus of a fund for continuing these most useful aids to learning beyond that time.

Exhibitions in the Faculty of Arts.

Three exhibitions of £20 a year for three years, three exhibitions of £15 a year for three years, and two exhibitions of £10 a year for three years, will be competed for annually in the Faculty of Arts. The three £20 exhibitions will be awarded to the candidates who stand foremost in order of merit from each College at the First University Examination in Arts; and the three £15 exhibitions to the candidates who stand second in order of merit from each College; provided that their names appear in the First Class of the division list at that examination. Of the two £10 exhibitions, one will be awarded to the best answerer in Mathematical Science, and the other to the best answerer in the Ancient Classics at the First University Examination. The £10 exhibitions are open to the competition of candidates from all the Colleges, and may be held along with one of the larger exhibitions.

Each candidate will be deemed a Student of that College in which he shall have attended the Lectures of the Second Session; and no Student will be admitted to the competition who shall have allowed more than a year to intervene between the time that he entered on the studies of the second year and the time of competition.

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[*] This allocation was afterwards changed, and Sir Robert Peel's benefaction merged in the general fund, in order that it might aid in establishing the connected series of prizes which the support of the public has enabled the Committee to found.

[†] £1,980 has been already invested, and the sum reserved for accumulation will probably be soon raised to £3,000. It is the intention of the Committee to add to the reserve fund whatever further sums may be at their disposal from lapsed exhibitions or other sources; as it is very important that the assistance which is now being afforded for ten years to students in the Queen's Colleges should not be allowed to come abruptly to an end at the close of that period.

Appendix E.
Regulations of the College.

The first instalment of each exhibition will be paid at the time of competition; the second when the exhibitioner takes the Degree of B.A. in the Queen's University, provided he graduate with honors, and within two academic years; and the third when he takes the Degree of M.A. in the Queen's University, provided he obtain it within three academic years from the time of competition.

Exhibitions in the Faculty of Medicine.

Two exhibitions—one consisting of two instalments of £20 each, and the other of two instalments of £15 each—will be competed for annually in the Faculty of Medicine. These exhibitions will be awarded for proficiency in the non-professional part of the First University Examination in Medicine: the £20 exhibition to the best answerer absolutely, in whichever of the Colleges he may have been educated; and the £15 exhibition to the candidate who is first in order of merit of the competitors from the other two Colleges: provided that their names appear in the First Class of the division list at that examination.

Each candidate will be deemed a student of that College in which he shall have attended the lectures of the Second Session; and no student will be admitted to the competition who shall have allowed more than a year to intervene between the time that he entered on the studies of the first session and the time of competition.

The exhibitions in Medicine will be paid in two equal instalments: one at the time of competition; the other when the exhibitioner takes the Degree of M.D. in the Queen's University, provided that he graduate with honors, and within four academic years from the time of competition.

Exhibitions in the School of Engineering.

Two exhibitions—one of £20 a year for two years, and the other of £15 a year for two years—will be competed for annually in the School of Engineering. These exhibitions will be awarded at the First University Examination in Engineering: the £20 exhibition to the best answerer absolutely, in whichever of the Colleges he may have been educated; and the £15 exhibition to the candidate who is first in order of merit of the competitors from the other two Colleges: provided that their names appear in the First Class of the division list at that examination.

Each candidate will be deemed a student of that College in which he shall have attended the lectures of the Second Session; and no student will be admitted to the competition who shall have allowed more than a year to intervene between the time that he entered on the studies of the second year and the time of competition.

The first instalment of each exhibition will be paid at the time of competition; the other when the exhibitioner takes the Degree of B.E. in the Queen's University, provided that he take honors with it, and obtain it within two academic years from the time of competition.

Prizes in Composition, open to the competition of Graduates and Undergraduates.

Two prizes for English prose composition—one of £10 worth of books and the other of £5 worth of books—have been founded, and are open to the competition of all members of the University who shall not have been graduated for more than three years at the time of competition, and who shall not have already twice obtained one or other of these prizes.

Prizes in Composition, open to the competition of all Undergraduates.

Two prizes in composition—one for English prose, the other for Greek or Latin prose, and each consisting of £5 worth of books—have been founded, and are open to the competition of all undergraduates, provided that neither the English nor the Classical prize be awarded ofteuer than twice to any student.

Prize in Composition, limited to the competition of Undergraduates in Medicine.

A prize of £5 worth of books has been founded, for a thesis on a subject to be prescribed, and is limited to the competition of the undergraduates in Medicine who shall not have already twice received the prize.

The subjects on which the competitors for composition prizes are to write will be announced on or before the first of June in each year; the compositions, with fictitious signatures, are to be sent in to the Secretary of the University, on or before the first of the following September, and the successful competitors will be declared at the next public meeting of the University.

Prizes at Entrance.

Two prizes for English prose composition, and two prizes for Geometry, have been founded in each College, to be awarded annually at entrance: first prize for English prose composition, £3 worth of books; second do., £2 worth of books: first prize for Geometry, £3 worth of books; second do., £2 worth of books.

All the exhibitions and prizes now founded by public subscription shall be tenable along with any other scholarships, exhibitions, or prizes to which the successful competitors may be otherwise entitled.

Persons who wish to add to this Fund may find the following forms of use:—

FORM OF DONATION.

enclose Pounds sterling, and desire that this sum be expended in founding Exhibitions or other Prizes to encourage learning and promote industry among the Students and Graduates of the Queen's University in Ireland.

Dated at this day of , 187
(Signed),

To the Right Honorable
Sir ROBERT PEEL, Bart.,
Chairman of the Committee for augmenting the
Endowments of the Queen's Colleges.

FORM OF SUBSCRIPTION FOR A TERM OF YEARS.

I enclose as the First Instalment of my Subscription to the *Fund for the Endowment of Prizes, in connexion with the Queen's University in Ireland*, and I will cause an equal sum to be lodged in the Bank of Ireland to the credit of the same Fund, before the first of January in *each* of the next years.

Dated this day of , 187
(Signed),

To the Right Honorable
Sir ROBERT PEEL, Bart.,
Chairman of the Committee for augmenting the
Endowments of the Queen's Colleges.

Appendix E.

Regulations of the College.

EXAMINATIONS FOR THE CIVIL SERVICE OF INDIA.

REGULATIONS for the OPEN COMPETITION of 1879.

N.B.—The Regulations are liable to be altered in future years.

1. On June 17th, 1879, and following days, an examination of candidates will be held in London. At this examination not fewer than candidates will be selected, if so many shall be found duly qualified. Of these, will be selected for the Presidency of Bengal [for the Upper Provinces, and for the Lower Provinces], for that of Madras, and for that of Bombay.*—Notice will hereafter be given of the days and place of examination.

2. Any person desirous of competing at this examination, must produce to the Civil Service Commissioners, before the 1st of April, 1879, evidence showing—

(*a.*) That he is a natural born subject of Her Majesty.

(*b.*) That his age on the 1st of January, 1878, will be above seventeen years on the 1st of June, 1879, and under nineteen years, on the 1st of January, 1879.† [*N.B.—In the case of Natives of India this must be certified by the Government of India, or of the Presidency or Province in which the Candidate may have resided.*]

(*c.*) That he has no disease, constitutional affection, or bodily infirmity unfitting him, or likely to unfit him, for the Civil Service of India.‡

(*d.*) That he is of good moral character.‡

He must also pay such fee as the Secretary of State for India may prescribe.§

3. Should the evidence upon the above points be *primâ facie* satisfactory to the Civil Service Commissioners, the Candidate will, upon payment of the prescribed fee, be admitted to the Examination. The Commissioners may, however, in their discretion, at any time prior to the grant of the Certificate of Qualification hereinafter referred to, institute such further inquiries as they may deem necessary; and, if the result of such inquiries, in the case of any Candidate, should be unsatisfactory to them in any of the above respects, he will be ineligible for admission to the Civil Service of India; and, if already selected, will be removed from the position of a Probationer.

4. The examination will take place only in the following branches of knowledge:—

	Marks.
‖ English Composition,	300
¶ History of England—including a period selected by the Candidate	300
¶ English Literature—including books selected by the Candidate	300
Greek	600
Latin	800
French	500
German	500
Italian	400

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* The number of appointments to be made, and the number in each Presidency, &c., will be announced hereafter.

† At the Open Competition to be held in 1880, Candidates will be required to be above seventeen on the 1st June, and under nineteen on the 1st January, of that year. At subsequent competitions they will be required to be above seventeen and under nineteen on 1st June of the year in which the competition is held.

‡ Evidence of health and character must bear date not earlier than the 1st March, 1879.

§ The Fee for this Examination will be £5, payable by means of a special stamp according to instructions which will be communicated to candidates.

‖ Marks assigned in English Composition and Mathematics will be subject to no deduction.

¶ A considerable portion of the marks for English History and Literature will be allotted to the work specially prepared. In awarding marks for this, regard will be had partly to the extent and importance of the periods or books selected, and partly to the thoroughness with which they have been studied.

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Regulations of the College.

* Mathematics (pure and mixed)	1,000
Natural Science: that is, the Elements of any two of the following Sciences, viz.:— Chemistry, 500; Electricity and Magnetism, 300; Experimental Laws of Heat and Light. 300; Mechanical Philosophy, with outlines of Astronomy, 300.	
Logic	300
Elements of Political Economy	300
† Sanskrit	500
† Arabic	500

Candidates are at liberty to name, before April 1st, 1879, any or all of these branches of knowledge. No subjects are *obligatory*.

5. The merit of the persons examined will be estimated by marks; and the number set opposite to each branch in the preceding regulation denotes the greatest number of marks that can be obtained in respect of it.

6. The marks assigned to Candidates in each branch will be subject to such deduction as the Civil Service Commissioners may deem necessary, in order to secure that "a Candidate be allowed no credit at all for taking up a subject in which he is a mere smatterer." ||

7. The examination will be conducted by means of printed questions and written answers, and by *vivâ voce* examination, as may be deemed necessary.

8. The marks obtained by each candidate, in respect of each of the subjects in which he shall have been examined, will be added up, and the names of the candidates who shall have obtained a greater aggregate number of marks than any of the remaining candidates will be set forth in order of merit, and such candidates shall be deemed to be selected candidates for the Civil Service of India, provided they appear to be in other respects duly qualified. Should any of the selected candidates become disqualified, the Secretary of State for India will determine whether the vacancy thus created shall be filled up or not. In the former case, the candidate next in order of merit and in other respects duly qualified, shall be deemed to be a selected candidate. A selected candidate declining to accept the appointment which may be offered to him will be disqualified for any subsequent competition.

9. Selected candidates before proceeding to India will be on probation for two years, during which time they will be examined periodically, with the view of testing their progress in the following subjects:—

	Marks.
1. Law	1,250
2. Classical Languages of India—	
Sanskrit,	500
Arabic	400
Persian	400
3. Vernacular Languages of India (each),	400
4. The History and Geography of India,	350
5. Political Economy,	350

In these examinations, as in the open competition, the merit of the candidates examined will be estimated by marks, and the number set opposite to each subject denotes the greatest number of marks that can be obtained in respect of it at any one examination. The examination will be conducted by means of printed questions and written answers, and by *vivâ voce* examination, as may be deemed necessary. The last of these examin-

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* The Examination will range from Arithmetic, Algebra, and Elementary Geometry, up to the elements of the differential and integral calculus, including the lower portions of applied Mathematics.

† The standard of marking in Sanskrit and Arabic will be determined with reference to a high degree of proficiency, such as may be expected to be reached by a Native of good education.

‡ Full instructions as to the course of study to be pursued will be issued to the successful candidates as soon as possible after the result of the open competition is declared.

Appendix E. — Regulations of the College.

ations will be held at the close of the second year of probation, and will be called the "Final Examination," at which it will be decided whether a selected candidate is qualified for the Civil Service of India. At this examination candidates will be permitted to take up any one of the following branches of Natural Science, viz.:—Botany, Geology, and Zoology, for which 350 marks will be allowed.

10. Any candidate who, at any of the periodical Examinations, shall appear to have wilfully neglected his studies, or to be physically incapacitated for pursuing the prescribed course of training, will be liable to have his name removed from the list of selected candidates.

11. The selected candidates who at the Final Examination shall be found to have a competent knowledge of the subjects specified in Regulation 9, and who shall have satisfied the Civil Service Commissioners of their eligibility in respect of age, health, and character, shall be certified by the said Commissioners to be entitled to be appointed to the Civil Service of India, provided they shall comply with the regulations in force, at the time, for that Service.

12. Applications from persons desirous to be admitted as candidates are to be addressed to the "Secretary to the Civil Service Commissioners, London, S.W.," from whom the proper form for the purpose may be obtained.

October, 1878.

The Civil Service Commissioners are authorized by the Secretary of State for India in Council to make the following announcements:—

1. Selected Candidates will be permitted to choose,* according to the order in which they stand in the list resulting from the open competition, as long as a choice remains, the Presidency (and in Bengal the Division of the Presidency) to which they shall be appointed, but this choice will be subject to a different arrangement, should the Secretary of State, or the Government of India deem it necessary.

2. The Probationers, having passed the necessary examinations, will be required to report themselves to their Government in India not later than the close of December, 1882.

3. The seniority in the Civil Service of India of the selected candidates shall be determined according to the order in which they stand on the list resulting from the Final Examination.

4. An allowance of £150 a year will be given during each of the two years of their probation to all candidates who pass their probation at some University to be approved beforehand by the Secretary of State, provided such candidates shall have passed the required examinations to the satisfaction of the Civil Service Commissioners, and shall have complied with such rules as may be laid down for the guidance of selected candidates.

5. All selected candidates will be required, after having passed the second periodical Examination, to attend at the India Office for the purpose of entering into an agreement binding themselves, amongst other things, to refund in certain cases the amount of their allowance in the event of their failing to proceed to India. A surety will be required.

6. After passing the Final Examination, each candidate will be required to attend again at the India Office, with the view of entering into covenants. The stamps payable on these documents amount to £1.

7. Candidates rejected at the Final Examination of 1881 will in no case be allowed to present themselves for re-examination.

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* This choice must be exercised immediately after the result of the open competition is announced, on such day as may be fixed by the Civil Service Commissioners.

Appendix E.
Regulations of the College, &c.

For the guidance of Candidates who may have a difficulty in making their selections under the heads of English History and Literature, the following lists are given as indicating the character and amount of reading that would be regarded as satisfactory.

HISTORY OF ENGLAND.

Any one of the following periods, to be studied specially in the Text-books named:—

1. *Henry II. to Edward III. A.D.* 1154–1377.—Stubbs' Select Charters; Stubbs' Constitutional History of England.
2. *The Tudors, A.D.* 1485–1603.—Hallam's Constitutional History of England; Froude's History of England.
3. *The Stuarts, A.D.* 1603–1714.—Hallam's Constitutional History of England; Macaulay's History of England.
4. *A.D.* 1714–1805.—Lord Stanhope's History; Sir T. E. May's Constitutional History; *either* Massey's Reign of George III., *or* Lord Stanhope's Life of Pitt.

ENGLISH LITERATURE.

POETRY.

Shakespeare.—Three plays, one from each of the following groups:—

(*a*) Macbeth, Othello, Lear, Hamlet.
(*b*) Coriolanus, Julius Cæsar, King John, Henry V.
(*c*) Tempest, Merchant of Venice, Romeo and Juliet, As You Like it.

And any two of the following:—

1. *Chaucer.*—Prologue to the Canterbury Tales, with the Prioress' Tale, and the Clerk's Tale.
2. *Milton.*—First four books of Paradise Lost, *or* Paradise Regained, or Comus and Samson Agonistes.
3. *Dryden.*—Absalom and Achitophel, and The Hind and Panther.
4. *Pope.*—Imitations of Satires and Epistles of Horace.
5. *Gray.*—Poems.

PROSE.

Bacon.—Essays, *or* Advancement of Learning.

And any two of the following:—

1. *Milton.*—Areopagitica; and *Locke.*—On the Conduct of the Understanding.
2. *Clarendon.*—History of the Rebellion, from the Treaty between the King and the Parliament, at the end of Book VI., to the Death and Character of Falkland in Book VII.; and *De Foe.*—Memoirs of a Cavalier (ch. viii. to the end).
3. *Addison.*—Coverley Papers, Essay on Imagination, and Criticisms on Milton.
4. *Johnson.*—"Six Chief Lives of the Poets," viz.:—of Milton, Dryden, Swift, Addison, Pope, and Gray; with Macaulay's Biography of Johnson.
5. *Burke.*—Reflections on the French Revolution; *or* Appeal from New to Old Whigs, with Speech on American Taxation.
6. *Macaulay.*—Essays on Addison, Byron, Walpole, Mackintosh, Temple, and Madame D'Arblay.

Appendix E.

Regulations of the College, &c.

RULES of the HONORABLE SOCIETY of KING'S INNS, with regard to the ADMISSION of STUDENTS into the SOCIETY, and to the DEGREE of BARRISTER-AT-LAW.

ADMISSION OF STUDENTS.

I.—Every person applying to be admitted a Student into this Society shall present at the Under-Treasurer's Office, three clear days at the least before the first day of term, a memorial in the printed form adopted by the Benchers, which memorial is to be signed and lodged by the person applying to be admitted a Student, and a certificate annexed thereto, signed by a practising Barrister of at least ten years' standing.

II.—Every person applying to be admitted a Student shall pay the sum of one guinea upon application for the form of memorial.

III.—Every person applying to be admitted a Student, on presenting such memorial, shall produce a certificate of having paid at the Stamp Office, the stamp duty of twenty-five pounds sterling, and shall also pay to the Under-Treasurer the sum of twenty-two pounds ten shillings, which includes five pounds five shillings for admission to the Library, and five pounds five shillings for Professors' fees—the balance being the fee for admission into the Society as a Student.

IV.—Every Student shall, in addition to the sum of five guineas, Professors' fees paid on admission, also pay the sum of five guineas Professors' fees for every year after the first year, during which he shall attend the lectures of the Professors of the King's Inns; and no Student shall be admitted to attend the lectures of any Professor of the King's Inns except on production of the certificate of the Under-Treasurer that he has paid such fees.

V.—Every person applying to be admitted a Student, who shall be a graduate or undergraduate of any University, or who shall be a Student of any of the Inns of Court in England, having passed the preliminary examination therein, shall be entitled to be admitted a Student without passing a preliminary examination.

VI.—Every other person applying to be admitted a Student shall, before such admission as a Student pass an examination in the following subjects, viz.:—

Latin:—
  Cæsar—Commentaries, Books I. and II.
  Virgil—Æneid, Books I. to VI.
  Horace—Odes, Book I.; Satires and Epistles.
English History:—
  The Student's Hume, or, The Abridgment of Lingard's History of England.
English Language and Literature:—
  1. English Grammar; Selections from Latham's History of the English Language.
  2. The Student's Manual of English Literature.
  3. Any three of the following subjects at the Student's election:—
    a. Chaucer—Prologue and Knighte's Tale (Clarendon Press Series).
    b. Spenser's Faërie Queene, Book I. (Clarendon Press Series).
    c. Any three of the following Plays of Shakespere: Julius Cæsar, Macbeth, Hamlet, King John, Henry V., Richard II., Othello, Midsummer Night's Dream, Romeo and Juliet.
    d. Milton's Paradise Lost, omitting Books 5–8, and The Sonnets.
    e. Bacon's Essays: Of Truth, Of Adversity, Of Revenge, Of Atheism, Of Superstition, Of Travel, Of Innovation, Of Nature in Man, Of Building, Of Studies.
    f. Dryden—Absalom and Achitophel, and Religio Laici, or, The Hind and the Panther.
    g. Pope's Essay on Man, and Rape of the Lock.
    h. Byron—Childe Harold.
    i. Tennyson's lesser Poems, as in Edition of 1852, or The Arthurian Legends.
    j. Johnson's Lives of Milton, Dryden, Pope, and Addison.
    k. Macaulay's Essays on Warren Hastings, and Lord Clive or on Frederick II. (of Prussia), and Lord Chatham.

Regulations of the College, &c.

Keeping Terms.

VII.—Every Student shall keep twelve Terms' Commons—eight Terms' Commons in the Dining Hall of the Society, and four Terms' Commons in one of the Four Inns of Court in London, the last of which twelve Terms may be kept in the Term in which the Student shall apply to be called to the Bar.

VIII.—Every Student shall be enabled to keep terms by dining in the Hall of the Society on two days at least in the Term, one day in the half week commencing on Monday, and one day in the half week commencing on Thursday. No day's attendance in the Hall shall be available for the purpose of keeping Term, unless the Student attending shall have been present at the grace before dinner, during the whole of dinner, and until the concluding grace shall have been said.

IX.—Educational Qualifications.

1. Attendance at one course* of each of the three Professors of the King's Inns, and one course of either of the Law Professors of Trinity College. This attendance to extend over two years at least. The Student must produce the certificate of the Professor whose lectures he has attended of such attendance, and of having passed the examination at the end of each term of the course.

2. Graduates of the University of Dublin, the Queen's University, Oxford, Cambridge, and London Universities, may qualify for call to the Bar by attending for a year the lectures of two of the Professors of the King's Inns, and in the case of all such graduates, except graduates of the London University, by attending for a year the lectures of two of the Professors of Law in their respective Universities, and passing the examinations (if any) held by the Professors at the end of each course, and in the case of graduates of the University of London, by attending for one year the lectures of two of the Professors of Law in University College, and passing the like examinations if such be held.

3. In addition to Nos. 1 or 2, every Student must pass the General Examination.

X.—No Student shall be allowed to present himself for the General Examination unless he has completed his courses of lectures, and has produced the proper certificates of attendance at the lectures and examinations from the Professors.

XI.—The General Examination required to be passed by all Students before call to the Bar shall be in any four of the following groups of subjects, viz:—1. Jurisprudence, Civil and International Law; 2. Real Property; 3. Equity; 4. Common Law; 5. History of Law, Constitutional Law, and Criminal Law—of which Jurisprudence, Civil, and International Law must be one. The Prize Examination shall be in all the subjects.†

XII.—There shall be two General Examinations held in each year, one immediately before the November, and another before the April sittings.

XIII.—That it shall be in the power of the Education Committee to grant a Special Examination to any Student on any grounds they may deem sufficient.

XIV.—These rules shall be retrospective in their operation, and that all Students who entered after November, 1872, shall be entitled to claim the benefit of them.

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* The subjects of the lectures are announced before Hilary, Easter, and Michaelmas Sessions in each year. Three consecutive sessions form a course.

† The rules which regulate the times, place, and subjects of examination are published at least three months before the examination, and can be procured at the Office of the Under-Treasurer.

Appendix E.
——
Regulations of the College, &c.

XV.—An exhibition of twenty guineas per annum to continue for a period of three years shall be conferred on the most distinguished Student at each General Examination; and he shall also be entitled, if so recommended by the Members of the Education Committee, to be excused from keeping two of the Terms' Commons in the Dining Hall of the Society, which would otherwise be required for his admission to the Bar.

XVI.—A prize of twenty guineas shall be conferred on the Student obtaining the second position; and he shall also be entitled, if so recommended by the Members of the Education Committee, to be excused from keeping one Term's Commons in the Dining Hall of the Society in Ireland, which would otherwise be required for his admission to the Bar.

XVII.—The Benchers, however, reserve to themselves a discretion of withholding an exhibition or prize in case the Education Committee report that they do not consider the answering sufficiently meritorious. The Benchers may give special certificates of honor to Students failing to obtain the first or second prize, where the Education Committee report that the answering of any Students may merit such distinction.

XVIII.—The list of all the Students passing the General Examination, and arranged in the order of merit, and stating the exhibitions, prizes, privileges, and distinctions conferred on them, respectively, shall be placed in the Hall of the Four Courts, in the Law Library, and in the Lecture Room of the King's Inns.

XIX.—At any call to the Bar, those Students who have passed the General Examination, and who have obtained exhibitions or prizes thereat, shall take rank in seniority over all other Students who shall be called on the same day, and those who have obtained exhibitions or prizes shall take rank respectively in seniority, according to the rank and date of the exhibitions or prizes obtained by them.

XX.—The Students intending to present themselves at the General Examination shall give in their names at the Under-Treasurer's Office, seven clear days before the day of holding such Examination.

Calling to the Bar.

XXI.—Every Student, having complied with the foregoing rules, desiring to be admitted to the degree of a Barrister-at-Law, and being of the full age of twenty-one years, shall present a memorial, in the printed form adopted by the Benchers, at the Under-Treasurer's Office, three clear days, at the least, before the first day of term, said memorial to be signed by the Student himself; the certificate annexed thereto to be signed by a practising Barrister of at least ten years' standing, and the declaration at foot thereof by a Bencher.

XXII.—Every Student, so applying for admission to the degree of a Barrister-at-Law, shall, on presenting his said memorial, pay to the Under-Treasurer the sum of forty pounds, being the payment to the Society thereon, and lodge at the same time a certificate of having paid fifty pounds stamp duty at the Stamp Office, certificates of having complied with the requisites prescribed by rule IX., and a certificate of having kept the requisite number of terms from one of the Inns of Court in England.

APPENDIX F.

SELECTIONS FROM SCHOLARSHIP AND SESSIONAL EXAMINATION PAPERS, 1877–78.

SECOND YEAR'S SCHOLARSHIPS.

LITERARY SCHOLARSHIPS.

GREEK.—*Examiner, Professor D'Arcy Thompson*, M.A.

1. Translate, without note or comment, the following passages :—

(*a.*) HOMER—*Iliad*, xvi., 765–776.
(*b.*) *Ib.*, xviii., 207–214.
(*c.*) *Ib.*, xxi., 308–315.
(*d.*) *Ib.*, xxii., 490–498.

(*e.*) Give the full meaning, and—where requisite, or possible,—the derivation of the following words :—*μετανάστης* : *ὑποφῆται* : *ἀμαιμακέτης* : *παρήορος* : *αἰγανέης* : *δυσπέμφελος* : *τερμιόεις* : *βουλυτός* : *ὑπολίζων* : *ἀταρπιτός* : *περιδέξιος* : *λαυκανίη*.

(*f.*) Write in Attic forms the following words :—*καλῆσιν* : *Ἰλίοφι* : *ἄλεν* : *πιθόμην* : *στήμεναι* : *σεῖο* : *πεδίονδε* : *εἰσορόων* : *ποτιόσσομαι* : *ἔρρεξεν* : *μάστιξε* : *πόληος*.

2. Translate, without note or comment, the following passages :—

(*a.*) ÆSCHYLUS—*Prometheus Vinctus*, 669–682.
(*b.*) *Ib.*, 347–362.

(*c.*) Translate, and—where requisite, or possible,—give the derivation of the following words :—*τηλουρός* : *λεωργός* : *αἰπυμήτης* : *σταθευτός* : *ἐλινύειν* : *οἰακονόμος* : *ἀτέραμνος* : *ὀκριόεις* : *ἀλίγκιος* : *ἀήσυρος* : *κνώδαλον* : *ἐπάργεμος*.

3. Translate the following passages, and append annotations to such words or constructions as you may consider deserving of special notice :—

(*a.*) SOPHOCLES—*Antigone*, 473–483.
(*b.*) *Ib.*, 705–718.
(*c.*) *Ib.*, 1019–1032.

4. Parse fully the following words :—*ἀγνυμενάων* in the 5th line of 1 (*a*) ; *ἵστη* in the 6th line of 1 (*c*) ; *ἄκρατος* in the 10th line of 2 (*a*).

5. State what you see peculiar in :—6th line of 3 (*b*) ; 7th line of 3 (*c*) ; and the last line of ditto.

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1. Translate the following passages, adding such annotations as you may think called for :—

(*a.*) EURIPIDES—*Bacchæ*, 330–342.
(*b.*) *Ib.*, 432–450.

2. Translate the following passages, and append to the latter passage, and to it alone, such annotations as you may think called for :—

(*a.*) THUCYDIDES, iii., 20, commencing—*τὴν μὲν οὖν ξυμμέτρησιν τῶν κλιμάκων οὕτως ἔλαβον*, and ending—*τὸ μὲν οὖν τεῖχος ᾧ περιεφρουροῦντο οἱ Πλαταιῆς τοιοῦτον ἦν*.

(*b.*) THUCYDIDES, iii., 84, commencing—*ἐν δ' οὖν τῇ Κερκύρᾳ τὰ πολλὰ αὐτῶν προετολμήθη*, and ending—*εἴ ποτε ἄρα τις κινδυνεύσας τινὸς δεήσεται αὐτῶν*.

3. Render into Greek prose the following passages :—

(*a*) The result of the Sacred War rendered Macedon the leading state in Greece. Philip at once acquired by it military glory, a reputation for piety, and an accession of power. His ambitious designs were now too plain to be mistaken. The eyes of the blindest among the Athenians were at last opened; the promoters of the peace which had been concluded with Philip, incurred the hatred and suspicion of the people, whilst on the other hand Demosthenes rose higher than ever in public favour.

(*b*) There is scarce such another destructive thing to commonwealths as that their counsellors should be scorners; who, to show themselves courageous advisers, are always extenuating the greatness of dangers, insulting, as timid creatures, those who weigh dangers as they ought. Such men account the authority and power of laws as unfit to restrain great matters. They reject those counsels and precautions that look to a distant futurity. They satirize and banter such men as are really prudent and knowing in affairs. In short they sap all the foundations of political government at once—a thing which deserves the greater attention as it is not effected by open attack, but by secret undermining; nor is it by any means, so much suspected among mankind as it deserves to be.

ENGLISH.—*Examiner, The President.*

1. Enumerate the channels through which words from the Latin were introduced into English; and classify the Latin elements accordingly.
2. Explain the following terms :—Strong and Weak Verbs, Auxiliary Verbs, Antithesis, Solecism, Onomatopœia.
3. Distinguish the uses of *that* and *which* as Relatives.
4. Give rules, with examples, for the use of *shall* and *will.*
5. Criticise the following sentences :—
   a. "The following facts may, or have been, adduced on the other side."
   b. "If he permits this, he will speedily become as poor as them."
   c. "You may infuse the sentiment by a ray of light, no thicker, nor one thousandth part so thick as the finest needle."
   d. "She not only was beautiful, but accomplished also."
   e. "Swift, but a few months before, was willing to have hazarded all the horrors of a civil war."

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6. Write a short sketch of the life; and name, in chronological order, the principal works—Prose and Verse—of Dr. Johnson.
7. Quote as fully as you can Johnson's description of the Warrior's career, as illustrated by Charles of Sweden.
8. Explain the following passages :—

"Some village-Hampden, that, with dauntless breast,
The little Tyrant of his fields withstood,
Some mute inglorious Milton here may rest,
Some Cromwell guiltless of his country's blood."

9. "No more our long lost Arthur we bewail,
All hail, ye genuine kings, Britannia's issue, hail!"

10. "A voice as of the Cherub-Choir,
Gales from blooming Eden bear;
And distant warblings lessen on my ear,
That lost in long futurity expire."

11. "Lands he could measure, terms and tides presage,
And even the story ran that he could gauge."

12. What account does Wordsworth give of the origin of *The Ancient Mariner* ?

How may Coleridge be defended against the charge of plagiarism ?

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13. What was Macaulay's age when the Essays on Clive and Warren Hastings appeared ?

14. Write a description of the Black Hole of Calcutta ; and mention the circumstances that led to that atrocity, and the consequences to which it immediately gave rise.

15. Describe the circumstances of Clive's death.

16. Explain the following passages :—

"There was still a nabob of Bengal, who stood to the English rulers of his country in the same relation in which Augustulus stood to Odoacer, or the last Merovingians to Charles Martel and Pepin."

17. "Now and then a white-bearded old Sepoy may still be found, who loves to talk of Porto Novo and Pollilore."

18. Give Macaulay's conclusion as to the authorship of the Letters of Junius, with the grounds on which it rests.

SCIENCE SCHOLARSHIPS.

ARTS AND ENGINEERING.

MATHEMATICS.—*Examiner, Professor Allman,* LL.D.

1. A common tangent is drawn to two circles which do not intersect, prove that the part of it between the two points of contact is bisected by the radical axis of the two circles.

2. Eliminate ϕ from the equations—

$$x=a+b\sin\phi, \quad y=a\cot\phi+b\sin\phi.$$

3. If R and r be the radii of the circumscribed and inscribed circles of a plane triangle, prove that—

$$\frac{R}{r}=\frac{a+b+c}{a\cos A+b\cos B+c\cos C}.$$

4. Prove that if a solid angle be contained by three plane angles, any two of them are greater than the third.

5. In a spherical triangle prove the formulæ :—

$$\tan\tfrac{1}{2}(a+b)=\frac{\cos\frac{1}{2}(A-B)}{\cos\frac{1}{2}(A+B)}\tan\frac{c}{2}; \quad \tan\tfrac{1}{2}(a-b)=\frac{\sin\frac{1}{2}(A-B)}{\sin\frac{1}{2}(A+B)}\tan\frac{c}{2}.$$

6. Give the base of a triangle, plane or spherical, and the ratio of the tangents of the base angles ; find the locus of the vertex.

7. A person standing on the bank of a river observes the elevation of a tree on the opposite bank to be 51°, and when he retires 30 feet from the river's edge he finds the elevation to be 45° ; find the breadth of the river, being given—

$\log 1{\cdot}558={\cdot}19263$, $L\sin 46^\circ=9{\cdot}85693$, $L\sin 5^\circ=8{\cdot}94029$.
$\log 3={\cdot}47712$, $L\sin 39^\circ=9{\cdot}79887$.

8. Solve the equations :—

$$x^5-4x^4+x^3+x^2-4x+1=0;$$
$$x^4-8x^3+23x^2-28x+12=0, \text{ which has two equal roots.}$$

Appendix F. Scholarship Examinations.

9. Prove that in any equation with real co-efficients imaginary roots enter in pairs.

10. Find the equation of a straight line such that the perpendicular on it from the origin is equal to 6, and makes an angle of 45° with the axis of x; the axes being rectangular.

11. Find the co-ordinates of the centre and the radius of the circle—

$$x^2+y^2-6x+4y+4=0.$$

12. Interpret the following equations—

$$x+y=0, \qquad x^2-y^2=0, \qquad x^2+y^2=0, \qquad xy=0.$$

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1. If $\dfrac{\sin(\alpha+\beta-\theta)}{\sin(\alpha+\beta)\cos^2\gamma}=\dfrac{\sin(\beta+\gamma-\theta)}{\sin(\beta+\gamma)\cos^2\alpha}$, prove that—

$$\cot\theta=\frac{\sin^2(\alpha+\beta+\gamma)+\cos(\alpha+\beta)\cos(\beta+\gamma)\cos(\gamma+\alpha)}{\sin(\alpha+\beta)\sin(\beta+\gamma)\sin(\gamma+\alpha)}.$$

2. In a spherical triangle, if h be the perpendicular from the vertex C on the base c, and β the bisector of the base, prove that—

$$\cos^2\beta=\sin^2\frac{c}{2}\cos^2 h+\cos a\cos b.$$

3. Prove that the lines joining the points of bisection of the opposite edges of a triangular pyramid intersect in a point.

4. Show that the surface of a sphere can be completely covered with the surfaces of 4, or of 8, or of 20 equilateral spherical triangles.

5. Find the sum of the cosinès of a series of angles which are in arithmetical progression.

Sum to infinity the series—

$$x\cos\theta-\frac{x^2\cos 2\theta}{2}+\frac{x^3\cos 3\theta}{3}\ldots$$

6. Prove that the second and fourth terms of the equation

$$x^4+p_1x^3+p_2x^2+p_3x+p_4=0$$

can be removed by the same transformation if

$$8p_3=p_1(4p_2-p_1^2).$$

7. If $a, b, c, \ldots$ denote the roots of the recurring equation

$$x^n+px^{n-1}+qx^{n-2}+\ldots+qx^2+px+1=0,$$

prove that—

$$\frac{a^2}{b^2}+\frac{a^2}{c^2}+\ldots+\frac{b^2}{a^2}+\frac{b^2}{c^2}+\ldots+\frac{c^2}{a^2}+\frac{c^2}{b^2}+\ldots=(p^2-2q)^2-n.$$

8. The vertex, vertical angle, and area of a triangle are given; if one extremity of the base describe a straight line or a circle, find the locus described by the other extremity.

9. Find the equation of a circle referred to two tangents as axes of co-ordinates.

MEDICAL SCHOLARSHIPS.

PRACTICAL ANATOMY.—*Examiner, Professor Cleland,* M.D.

1. Describe the body and transverse process of a typical cervical vertebra, explaining their morphological correspondences.

2. Describe the temporo-maxillary articulation and its movements.

Appendix F.
Scholarship Examinations.

3. Give a full description of the adductor magnus muscle, its relations to other muscles, and its utility.

4. Describe the deep muscles on the back of the forearm.

5. Describe the articular surfaces at the upper end of the ulna, and that at the lower end of the tibia.

CHEMISTRY.—*Examiner, Professor Rowney*, PH.D.

1. In what form does chlorine exist in nature, and by what method may it be isolated from its compounds?

2. What is the composition of ammonium nitrate? Describe the products of the decomposition of this salt by heat.

3. How is sulphuretted hydrogen prepared; give its composition and properties?

4. How is coal gas obtained, and of what gases is it chiefly composed?

5. Describe the method of determining the composition of water by weight.

6. State what is meant by chemical affinity, and how it differs from the forces of cohesion and adhesion?

7. Give the formula for alcohol; and state what acid is produced by its oxidation.

8. How is gaseous ammonia obtained? Give its composition by weight and by volume.

9. What is the nature of ozone, and how may its presence be detected?

10. Describe the method of preparing and the properties of potassium hydrate.

11. Give a short description of the process of fermentation.

12. Give the composition and properties of arseniuretted hydrogen gas.

THIRD YEAR'S SCHOLARSHIPS.

ENGINEERING SCHOLARSHIPS.

MATHEMATICS.—*Examiner, Professor Allman*, LL.D.

1. Define and prove the existence of conjugate diameters in the central conic sections.

2. Find the focus of the centre of a conic section—
   (*a*). Passing through four given points.
   (*b*). Touching four given straight lines.

3. Prove that any point of the parabola is equally distant from the focus and directrix.

4. Differentiate—

$$\frac{l-x}{\sqrt{l+x^2}}\,;\quad \log.\sqrt{\left\{\frac{\sqrt{l+x^2}+x}{\sqrt{l+x^2}-x}\right\}}\,;\quad e^{ax}\sin rx.$$

5. Expand $e^x \sec x$ by Maclaurien's theorem.

6. Give Newton's method of investigating radii of curvature.

7. Find the radius of curvature at any point of a conic section.

8. Find—

$$\int\frac{dx}{\sqrt{x^2+a^2}}\,;\qquad \int\frac{dx}{x\sqrt{x^2-a^2}}\,;\qquad \int\frac{dx}{\sin^2 x}.$$

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Scholarship Examinations.

9. Find—

$$\int \frac{d\theta}{a + b \cos \theta}; \quad \int e^{ax} x^3 \, dx; \quad \int \frac{(2x-5)\, dx}{(x+3)\,(x+1)^2}.$$

10. Find—

(*a*). The area of a section of a hyperbola;

(*b*). The length of an arc of a common parabola measured from the vertex.

NATURAL PHILOSOPHY.—*Examiner, Professor Curtis*, LL.D.

1. In a compound wheel and axle the radius of the wheel is 3 feet, the radii of the two parts of the axle are 2·5 inches and 3 inches, respectively; find the mechanical advantage.

2. A power of 20 lbs. is applied by means of a *Burton* of the first kind, containing five movable pulleys; find the weight sustained:—

(*a*) If the weight of the pulley blocks be neglected.

(*b*) If each pulley block weighs 5 lbs.

3. A power of 16 lbs. is applied by means of a handle, the length of which is 1·5 feet long, to a *Hunter's screw*, the distances between the threads of which are $\frac{3}{8}$, and $\frac{5}{16}$ of an inch, respectively; find the weight sustained.

4. If a body starting from rest slide down an inclined plane, the length of which is 5 feet, and height 3 feet; find at what moment another body should be let fall vertically from the top of the plane, in order that the two bodies should reach the earth at the same moment.

5. Prove that E, the error in time accumulated in 24 hours by a clock, consequent on a small error, δ, in l, the length of its pendulum, which is intended to vibrate n times in one second, is given by the formula:—

$$E = \frac{43200 n \delta}{l}.$$

6. Find the centrifugal force of a body weighing 5 lbs., and revolving uniformly in a circle, the radius of which is 3 feet, the time of revolution being 5 seconds.

7. In a *hydrostatic bellows*, the radius of the plate 6 inches, a weight of 100 lbs. is placed on the plate; how high will the water rise in the pipe?

8. The diameter of the large piston in a *Bramah press* is 20 inches, and of the smaller $\frac{1}{4}$ inch, the lever is 2 feet long, and is attached to the rod of the small piston at a point 2 inches from the fulcrum; what is the mechanical advantage of the press?

9. Find the pressure in lbs. exerted on a circular plate, the radius of which is 2 feet, immersed in water, the centre being 3 feet below the surface.

10. A watch-glass, the radius of each spherical surface of which is 5 inches, is filled with a liquid, and a system of parallel rays falling on the surface of the liquid converge to a point at a distance of 10·5 inches from the glass; find the index of refraction of the liquid.

11. Determine the dispersion produced by a prism, the angle of which is small.

12. Determine the magnifying power in the *astronomical* telescope.

13. How may the latitude of a given place be found by observations made on a fixed star?

14. How would you find, by means of a celestial globe, the duration of twilight on a given night, at a given place?

MEDICAL SCHOLARSHIPS.

PRACTICAL ANATOMY.—*Examiner, Professor Cleland*, M.D.

1. Describe the articulation of a typical rib, with the vertebral column, and the movements of the head and neck of the rib.
2. Describe the attachments of the diaphragm.
3. Describe the internal iliac artery and its branches.
4. Describe the situation of the kidneys, the arrangement of parts at the hilus, and the structure so far as it can be seen by sections made in the dissecting room.
5. Describe the apparent origins of the cranial nerves.

PHYSIOLOGY.—*Examiner, Professor Cleland*, M.D.

1. Describe the microscopic structure of the papillæ of the tongue.
2. Give the physiological explanation of the fact that poison acts more quickly when injected under the skin than when taken into the stomach, and that some substances are innocuous taken into the stomach, though poisonous when introduced into a wound.
3. State what is meant by the blood pressure, and how it may be studied and recorded.
4. Describe the appearance and structure of a Malpighian pyramid of the kidney.

FOURTH YEAR'S MEDICAL SCHOLARSHIP.

PHYSIOLOGY.—*Examiner, Professor Cleland*, M.D.

1. Describe the mechanism of the tympanic opicles and membrana tympani.
2. Describe the action of pepsin on connective tissue, muscular fibre, milk, and white of egg; also the conditions necessary to develop its action.
3. Describe the microscopic anatomy of the liver.
4. Describe the effects of division of the pneumogastric nerves in the neck.
5. Give a brief account of the development of the eye.

EXPERIMENTAL PHYSICS.—*Examiner, Professor Curtis*, LL.D.

1. Describe the construction and principle of the air-pump, and show that a perfect vacuum can never be obtained by it.
2. Mention some experiments which demonstrate the following properties of air:—its weight; its elasticity; its power of transmitting sound.
3. Explain the principles of the Artesian well; the intermitting spring; Barker's mill; the hydraulic ram.
4. In a *Mariotte's tube* the shorter branch is 30 inches high, mercury is poured in till it rises to the index 6·25 inches in each branch; the shorter tube is then closed, and mercury poured in till it rises to 8 inches in the closed branch: find the height to which it has risen in the open branch, the barometer standing at 29·36 inches.

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5. Mercury is again poured in till it rises to 12·625 inches in the open branch: find the height of the mercury in the closed branch.

6. State *precisely* the law according to which the density of water changes with its temperature, and mention experiments by which the law may be verified and illustrated.

7. Define specific heat, and give methods for determining the specific heat of liquids and solids.

8. Why is the specific heat of water selected as the unit?

9. Mention experiments by which the conducting power of different bodies, and the absorption, reflexion, and radiation of different surfaces may be compared.

10. A quantity of water has its temperature reduced below the freezing point, without being converted into ice; if the water be slightly agitated, state what will happen, and give an explanation of the phenomenon.

11. In what, according to Faraday, consists the difference between an electrical conductor and an insulator?

12. How does an electrometer become an indicator of the *absolute* charge communicated to a Leyden jar?

13. Explain the construction and principle of the single leaf electrometer; also those of the double leaf electrometer.

14. Mention the principal objections to the single fluid batteries.

15. Mention the principal double fluid batteries, and state the advantages of each.

16. Define *Magnetic dip*, *Magnetic declination*, *Magnetic intensity*; and explain how they may be determined.

17. Define the moment of a force taken with respect to a given point, and state the condition which must be fulfilled in the case of equilibrium between a system of forces acting on a solid body, when the forces all act in a plane containing a fixed point in the body.

18. Define *work done*, and state the principle of the constancy of work done.

19. Apply the above principles, or either of them, to determine the conditions of equilibrium in the following mechanical powers, viz.:—the lever; the simple screw; the compound screw; the simple wheel and axle; the compound wheel and axle.

20. What weight will be supported in a Burton of the first kind with eleven moveable pulleys, by a weight of thirteen pounds?

SENIOR SCHOLARSHIPS.

SCHOLARSHIP IN GREEK AND LATIN LANGUAGES AND LITERATURE.

GREEK.—*Examiner, Professor D'Arcy Thompson*, M.A.

1. Translate the following passages, and annotate, especially in the latter of the two passages, each expression or construction of peculiar interest or difficulty:—

(*a.*) THUCYDIDES, iv., 62.—Commencing—*καὶ τὸ μὲν πρὸς τοὺς Ἀθηναίους τοσοῦτον ἀγαθὸν εὖ βουλευομένοις εὑρίσκεται*, and ending—*ἐξ ’ίσου γὰρ δεδιότες προμηθίᾳ μᾶλλον ἐπ' ἀλλήγους ἐρχόμεθα.*

(*b.*) THUCYDIDES, iv., 73.—Commencing—μετὰ δὲ τοῦτο Βρασίδας· καὶ τὸ στράτευμα ἐχώρουν ἐγγυτέρω τῆς θαλάσσης καὶ τῆς τῶν Μεγαρέων πόλεως, and ending—δεξάμενοι καταπεπληγμένων ἤδη τῶν πρὸς τοὺς Ἀθηναίους πραξάντων ἐςλόγους ἔρχονται.

2. Translate, and append such annotations as you may think necessary for full illustration of the passage: –

DEMOSTHENES—*De Falsa Legatione.*—Commencing—βούλομαι τοίνυν ὑμῖν ἐπελθεῖν ἐπὶ κεφαλαίων ὃν τρόπον ὑμᾶς κατεπολιτεύσατο Φίλιππος προσλαβὼν τούτους τοὺς θεοῖς ἐχθρούς. and ending—ἅπερ ἂν συνθέσθα. νῦν ἀξιώσαιμεν αὐτὸν, ταῦτα ποιήσει τότε.

3. Explain fully the following words and expressions :—

(*a.*) παραγγελία περὶ τουτονὶ τὸν ἀγῶνα γέγονε.

(*b.*) τοὺς ἄλλους, κἂν δεδωκότες ὦσιν εὐθύνας, τὴν ἀειλογίαν ὁρῶ προτεινομένους.

(*c.*) πάντα ἐξηπατημένοι, καὶ τούτων ἕτερ' αὖθις σὖ πεπραχότων, προσῆμεν τῇ βουλῇ.

(*d.*) ἡ προαίρεσις αὐτοῦ τῆς πολιτείας προβεβλημένη καὶ ἄπιστος ἦν πρὸς τὸν Φίλιππον.

(*e.*) διὰ ταῦτα ἐσπαθᾶτο ταῦτα, καὶ διὰ ταῦτ' ἐδημηγορεῖτο.

(*f.*) πέμπτη φθίνοντος.

(*g.*) δίκαιος καὶ τρὶς οὐχ ἅπαξ ἀπολωλέναι.

(*h.*) συνεπαιώνιζε Φιλίππῳ, καὶ φιλοτησίας προὔπινε.

(*i.*) οὗτοι δὲ ἐχαρίζοντο πάντα, ἐνδεικνύμενοι καὶ ὑπερκολακεύοντες ἐκεῖνον.

(*j.*) ἐκεῖνος ἡμᾶς διεκωδώνισεν ἅπαντας.

(*k.*) εἷς οὗτος τῶν κλύδωνα καὶ μανίαν τὰ καθεστηκότα ἡγουμένων, ὁ τέως ἔτι προσκυνῶν τὴν Θόλον.

4. Translate the following passages, and append annotations where they may appear called for :—

(*a.*) SOPHOCLES—*Œdipus Rex*, 408–428.
(*b.*) *Ib.*, 707–725.
(*c.*) *Ib.*, 1422–1431.

5. Translate the following passages, and append annotations to all words, expressions, scansions, or constructions, that may appear deserving of special comment :—

(*a.*) HESOID—*Works and Days*, 182–201.
(*b.*) *Ib.*, 302–307.
(*c.*) *Ib.*, 414–447.
(*d.*) *Ib.*, 462–478.

LATIN.—*Professor Maguire*, LL.D.

Translate :—

A.—PLAUTUS.—*Aulularia.*

Commencing—

"*St.* Nec nunc mecastor, quid hero ego dicam meo
Malae rei evenisse, quamve insaniam,"

and ending—

"Fures Venisse, atque abstulisse dicito."

B. Lucretius.

(*a.*) Commencing—

> "Omne quod est igitur nulla regione viarum :
> Finitumst : namque extremum debebat habere :"

and ending—

> "An prohibere aliquid censes obstareque posse ?"

(*b.*) Commencing—

> "At mater viridis saltus orbata peragrans,"

and ending—

> "Usque adeo quiddam proprium notumque requirit."

(*c.*) Commencing—

> "Nec tamen haec simplex nobis natura putanda est."

and ending—

> "Sensiferos motus, quidam quod *manticulantur.*"

Discuss this reading.

C.—Virgil.—*Æneid.*

vii., 116-120.
x., 185-193.
x., 703-706.

What is the force of *enim* in—

> Quam pius Æneas tibi *enim*, tibi maxima Iuno
> Mactat, sacra ferens. (viii., 84.)

Point out the full force of the tenses in—

viii., 642-645.

And in—

vii., 808-811.

Comment on—

xi., 573-580.
vii., 594-600.
x., 105-112.

Translate into Latin prose :—

If the Conservative classes mean to keep the institutions that they value, they must be content to exert themselves for that purpose. Every man owes to the country in return for the blessings which have been won for him in past times, the exertion of maintaining those blessings uninjured for his descendants. Why is it that this is the freest country in the world? Why is it that you have institutions which you can mould at pleasure, but yet you hardly value? Why is it that your industry is protected by a continuous peace and order of which no other country in the world can give an example? It is because your ancestors were willing to devote and exert themselves in settling, according to their right judgment and best opinion they could form, the constitutional problems that presented themselves in their time. They never attempted to settle them by sitting at home, and not giving their efforts, or their votes. They have handed on to you by their courage and exertion, blessings of which you must show yourselves worthy. The heritage must be maintained by the virtues by which it was gained. It is only by recognising the duties—each man in his own sphere—of striving for the opinions which he believed to be sound that they can be victorious, and that we can maintain in its present splendid perfection the constitution of the freest country in the world.

Appendix F.

Scholarship Examinations.

Translate into English :—

TACITUS—*Hist.*, ii., 20.

At Caecina, velut relicta post Alpes saevitia ac licentia, modesto agmine per Italiam incessit. Ornatum ipsius municipia et coloniae in superbiam trahebant, quod versicolori sagulo, bracas barbarum tegmen indutus, togatos adloqueretur. Uxorem autem eius Saloninam, quamquam in nullius iniuriam insignis equo ostroque veheretur, tamquam laesi gravabantur, insita mortalibus natura recentem aliorum felicitatem acribus oculis introspicere, modumque fortunae a nullis magis exigere quam quos in aequo viderunt. Caecina Padum transgressus, temptata Othonianorum fide per conloquium et promissa, isdem petitus, postquam pax et concordia speciosis et irritis nominibus iactata sunt, consilia curasque in oppugnationem Placentiae magno terrore vertit, gnarus, ut initia belli provenissent, famam in cetera fore.

SCHOLARSHIP IN METAPHYSICAL AND ECONOMIC SCIENCE.

METAPHYSICS.—*Examiner, The President.*

1. Give the dates of the birth and death of Descartes, Locke, Berkeley, and Kant; and enumerate their principal works.

2. On what grounds has the title—"Founder of Modern Philosophy"—been claimed for Descartes?

3. State Descartes' proof of the existence of God.

4. State the leading principles of the philosophy of Locke.

5. Do the same for Berkeley's system.

6. State in order the leading principles which Kant established, or sought to establish, in the *Kritik* of *Pure Reason.*

7. Give Mill's definitions of Matter and Mind.

8. Assuming Mill's theory of Mind to be true; what evidence is there of the existence of our Fellow-creatures, of God, and of Immortality?

9. Distinguish between the Introspective and Psychological Methods of Inquiry.

Was Locke right in holding that "the origin of our ideas" is the first problem of Mental Science?

10. Criticize the doctrine of Unconscious Mental Modifications.

11. "Locke is thus the centre of the philosophy of Great Britain, Germany, and France"—By what historical summary does Professor Webb establish this statement?

12. Coleridge and Cousin assert that the doctrine of Innate Ideas which Locke laboured to subvert was "a mere chimera, an absurdity which no man ever did or could believe."—How does Webb controvert this opinion?

13. What difficulty did Locke find in the doctrine of the Freedom of Man (or the Liberty of the Will)? *What is his conclusion?*

SCHOLARSHIP IN CHEMISTRY.

Examiner, Professor Rowney, PH.D.

1. Describe the method of preparing aldehyd, and give the general characters of the aldehydes.

2. Give the processes for obtaining the different oxides of chlorine, and the properties of them.

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3. Give an explanation of the term isomorphism, and illustrate by examples.

4. Describe the methods of determining the composition of the atmosphere.

5. What reactions take place when hydro-sulphuric acid is passed into solutions of perchloride of iron and chromic acid?

6. Give the composition and properties of oxalic acid. State the sources from which this acid can be obtained.

7. Describe the method of obtaining the metal magnesium.

8. Give a description of the different varieties of sugar.

9. Give the methods for preparing hydriodic acid, and state the reasons why it cannot be prepared in the same manner as hydro-chloric acid.

10. What is the composition of phosgene gas, and how is that gas obtained.

11. Describe the method of obtaining and refining sulphur.

12. Give an explanation of the terms acid, base, and salt.

SCHOLARSHIP IN NATURAL PHILOSOPHY.

Examiner, Professor Curtis, LL.D.

1. Define specific inductive capacity, and show that on the specific inductive capacity of a body depends its electrical character as a conductor or insulator.

2. The experiment made by Coulomb to prove that the free electricity of a charged conductor resides entirely on the surface is not perfectly conclusive, according to Sir W. S. Harris; why?

3. Describe Faraday's experiment to prove the same.

4. Define on Cavendish's principles the following expressions:—*Positively electrified, negatively electrified, overcharged, undercharged.*

5. A Leyden jar with moveable coatings is insulated and discharged, if the coatings be immediately removed and their electrical state tested, they will be found opposite to those of the surfaces with which they were respectively in contact; account for this.

6. Explain the principle of the hydrostatic electrometer, and give the law by which it becomes the measure of the quantity of electricity communicated to its disc.

7. Describe the principal methods for magnetising a steel bar.

8. How may the intensities of the horizontal and vertical components of the earth's magnetism be determined? and how may the total intensity be deduced from each?

9. Explain the contrivance by which magnetic apparatus have been made self-registering.

10. Describe the method to be employed for accurately determining the magnetic dip.

11. Mention some experiments which tend to show that there is an essential connexion between chemical action and the development of electricity.

12. How may water or mercury be frozen by means of the air-pump?

13. Explain the principle of the safety tube employed in the production of gases.

14. What remarkable law holds with regard to the temperatures of a drop of a liquid, of the vapour given off by it, and of a heated plate by which the drop is maintained in the spheroidal state?

15. Explain the method of M. Despretz for measuring the conducting

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power of a solid with regard to heat, and state the law which he has deduced.

16. How may the conducting powers of liquids with regard to heat be estimated and compared?

17. How may the great resistance to the passage of heat offered by the furs of animals be accounted for?

18. Explain the principle and use of the vernier, and show that if the scale of a barometer be divided to the $\frac{1}{20}$th part of an inch, and if twenty-five divisions on the vernier correspond to twenty-four divisions on the scale, the height of the mercury may be found with accuracy to the $\frac{1}{500}$th part of an inch.

19. The shorter branch in a Mariotte's tube is 30 inches high, mercury is poured in till it rises to the index 6·25 inches in both branches, the shorter branch is then closed, and mercury is poured in till it rises to 8·87 inches in the shorter branch; find the height of the mercury in the longer one, the barometer standing at 29·36 inches.

20. If mercury be poured in till it rises to 15·25 inches in the longer branch, find the height to which it will rise in the closed one, the height of the barometer being as above.

SESSIONAL EXAMINATIONS.

Sessional Examinations.

FIRST YEAR.

ENGLISH LANGUAGE.—*Examiner, The President.*

1. In what way, and at what times, have Latin elements been introduced into the English Language?

2. What traces of Danish Invasion have been left in the language?

3. Give the derivation of the following words :—*Romance Languages, Utopia, pagan, companion, jovial, assassin, sycophant, tariff, sterling, cambric.*

4. Correct, if necessary, the following sentences :—

(*a*.) "Nor want nor cold his course delay."
(*b*.) "This is the man who I perceived was in fault."
(*c*.) "That bliss which only centres in the mind."
(*d*.) "I differ from you in opinion as much as I differ from you in height."
(*e*.) "Irving looked majestically on the stage."

5. What was the age of its author when each of the following works appeared?—The Vanity of Human Wishes; Elegy in a Country Churchyard; The Deserted Village; The Ancient Mariner; Essay on Warren Hastings.

6. Write notes on the following passage :—

"What gave great Villiers to th' assassin's knife,
And fix'd disease on Harley's closing life?
What murder'd Wentworth and what exil'd Hyde,
By Kings protected, and to Kings ally'd?"—

7. What are the characteristics of Dr. Johnson's style? Can you give a specimen of his Prose?

8. Parse the following sentences :—

(*a*.) "And all the air a solemn stillness holds,"—
(*b*.) "For who, to dumb Forgetfulness a prey,
This pleasing anxious being e'er resigned?"—

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9. Explain the following passage :—

> "Ye towers of Julius, London's lasting shame,
> With many a foul and midnight murder fed,
> Revere his Consort's faith, his Father's fame,
> And spare the meek Usurper's holy head."

10. What countries are compared in *The Traveller?* Quote a few lines from the description of each.

11. Quote lines from The Traveller and The Deserted Village in which the following Geographical words occur :—*Carinthian, Oswego, Altama, Arcadian, Torno, Arno, Apennine.*

12. Give the plan of *The Ancient Mariner*, and quote some of the stanzas you admire.

13. Give the substance of the opening and of the closing paragraphs of Macaulay's Essay on Clive.

14. "The House of Commons voted the major and minor of Burgoyne's syllogism; but they shrank from drawing the logical conclusion."—Explain this.

15. Describe, after Macaulay, the causes and the circumstances of Clive's death.

16. Give some account of Hyder Ali.

17. Describe, after Macaulay, the trial scene of Warren Hastings.

18. Quote the peroration of Burke's speech.

FRENCH.—*Examiner, Professor Geisler*, Ph.D.

Translate into English :—

Èric: Parcequ'il va encore m'imposer silence, parcequ'il va de nouveau m'enchaîner par des liens que je veux rompre enfin. Oui, tant que je fus accueilli par votre frère, tant que j'étais admis par lui sous son toit hospitalier, j'aurais cru manquer à la probité, à l'honneur, à tous les devoirs, en trahissant un secret dont ses affronts me dégagent; je ne lui dois plus rien, nous sommes quittes; et avant de mourir, je veux parler, je veux, dussiez-vous m'accabler de votre dédain et de votre colère, que vous sachiez une fois ce que j'ai éprouvé de tourmens et ce que mon coeur renferme de douleur et de désespoir.

Rantzau: Moi! je n'en veux à personne . . . mais je me dis souvent; qu'un homme de cour, qu'un diplomate soit fin, adroit et même quelque chose de plus—c'est son état; mais qu'un militaire, qui, par le sien même, doit professer la loyauté et la franchise, troque son épée contre un poignard! Un militaire qui trahit, un traître en uniforme, c'est la pire espèce de toutes! et dès aujourd'hui, peut-être vous même vous repentirez de vous être fiée à lui.

Translate into French :—

We do not fear death, why should we fear it? You conquer all the difficulties. Put out the candle and go to bed. You appear sad, what is the matter with you? It is better to say nothing. He has invited her to go and spend a fortnight at his country seat. Are you able to do that? Above all do not say anything. Be more punctual henceforth. Nor will I have it either. She never said so. She bought but one plate. This afflicting news spread in the town. I have learnt it from the messenger. He waited for me on the top of the hill. This old man is over ninety years old. I believe that you are right and that you will succeed. I am not sorry, on the contrary, I am very glad to have done it. What do you want? I want money. On the morning of the day, on which Molière died, his wife and his friends, seeing how weak he was, tried to prevent his going down to play that night —but in vain. "A man," he said, "suffers long ere he dies. I feel that with me the end is at hand; but there are fifty poor workmen who have only their day's wages to live on—and who is to give them bread to night, if I play not? So he went down and played the Malade Imaginaire, then home to bed and died.

GERMAN.—*Examiner, Professor Geisler,* PH.D.

Translate into English :—

1. *Hotham:* Der Prinz von Wales, Hoheit, ist nicht derjenige, in dessen Auftrag ich hier erschienen bin. Mich schickt die englische Nation, das Ministerium, das englische Parlament! Sie wissen, Prinz, und haben bei Ihrer Anwesenheit in England sich selbst davon überzeugt, dass das Haus Hannover auf den Thron von England unter Umständen berufen wurde, die ihm zur Pflicht machen, seinen persönlichen Willen dem allgemeinen Interesse unterzuordnen. Auf eine persönliche Neigung des Prinzen von Wales zu seiner Cousine, Prinzessin Wilhelmine, wird hier wenig ankommen. — Der Prinz von Wales wird als künftiger König von England jede Verbindung eingehen, die ihm das Nationalinteresse als wünschenswerth andeuten wird. Eine solche ist unter den gegenwärtigen politischen Constellationen die mit der Dynastie des jugendlich aufstrebenden Königreichs Preussen. ——

Wilhelmine: Ich war gehorsam von den ersten Regungen meines Bewusstseins an. Nie habe ich einen Willen gehabt, nie gewagt, wenn ich einen hatte, ihn zu äussern. Aber wenn man mir das Einzige rauben will, was mir nach diesen ewigen Demüthigungen als mein unantastbares Eigenthum geblieben ist, die freie Wahl meines Herzens, dann ist die grundlose Tiefe meines Gehorsams erschöpft. Ich fühle dass mein Bruder berechtigt war, sich von einem solchen Joch zu befreien, und ich werde der Welt zeigen, dass ich die Schwester dieses Bruders bin.

GUTZKOW—*Zopf und Schwert.*

2. Georg Fiscelle, Doktor der Rechte, hatte vom Kaiser Sigismund einen Adelsbrief erhalten und als, Deutschlands Angelegenheiten wegen zu Basel eine Versammlung zusammen berufen wurde, begab sich der Rechtsgelehrte dahin. Als er in den Berathungs-Saal getreten war, blieb er einige Augenblicke unentschlossen, ob er unter den Adligen oder unter den Gelehrten Platz nehmen wollte; endlich entschloss er sich zu dem Ersteren. Kaum hatte es der Kaiser bemerkt, so sagte er zu ihm: "Sie handeln nicht klug, dass Sie unter den Rittern Platz nehmen; wissen Sie denn nicht, dass es nur bei mir steht, in einem Tage tausend Ritter zu schlagen, während man in tausend Jahren kaum *einen* Gelehrten bilden kann?"

Form the plural of :—das Unglück, der Streit, die Ehre, der Staat, der Edelmann, der Geist, der Nachbar.

Explain the rules on the position of the verb in principal and dependent sentences. Exemplify.

Compare the grammatical functions of the verb "to be" in English with those of the verb "sein" in German.

Name the chief tenses of :—rathen, zwingen, ziehen, fangen, betrügen, kennen, denken, wissen, empfehlen, gleichen, schlafen, bieten, bitten, tragen.

Form the third person plural of the perfect of :—ausgeben, mitnehmen, vorkommen, zubringen, abschlagen, stattfinden, freisprechen, fehlschlagen.

Translate :—You have also been mistaken. If they had not surrendered, they would have all been killed. Do not feign to be so innocent; be ashamed of your behaviour and resolve to avoid such a fault for the future. I could open the door neither from within nor from without. Have you seen our friend lately? Yes, I saw him the other day, and I hope, I shall see him again very soon.—A poor old woman demanded that Philipp should listen to and decide her suit; she repeated her request very often and at last got for answer, "he has no time at all to attend to your case." "Cease then to be king," cried the old woman very indignant. Philipp, quite confounded, examined not only her but all who were present.

ENGINEERING.—*Examiner, Professor Townsend*, M.A.

1. Through a given point draw a plane parallel to a given plane.
2. Through a given point draw a line perpendicular to a line whose projections are given.
3. Construct the angle between two given planes.
4. Construct the perspective of the object whose orthogonal drawings are given.
5. Given the axes of an ellipse, construct the curve, and draw a tangent from a point outside.
6. Given the projections of a sphere, and also of a plane, construct the horizontal projection of the curve of section.
7. The representative scale of a map is $\frac{1}{3520}$, the distance between two points on it is 16·38 inches, find the distance between the points in furlongs.
8. The scale of a map is 2·5 chains to an inch. It is reduced in *area* to one-half its size. Find the scale of the new map in chains to the inch.
9. Prove the *numerical* relation between the length of a line and its isometrical projection.
10. Through a given line draw a tangent plane to a given sphere.

NATURAL HISTORY.—*Examiner, Professor Melville*, M.D.

BOTANY.

1. Describe the different modes of *cell formation.*
2. Enumerate and define the principal forms of the *inflorescence.*
3. Compare the orders *Boragineæ* and *Labiatæ*, stating their points of resemblance and of difference.

ZOOLOGY.

1. Describe the structure of the stomach in ruminants.
2. What are the principal characters which distinguish birds from reptiles?
3. Define the order Marsipobranchii.

SECOND YEAR.

FRENCH.—*Examiner, Professor Geisler*, Ph.D.

Translate into English:—

1. *Valère:* C'est pour ne point l'aigrir, et pour en venir mieux à bout. Heurter de front ses sentiments est le moyen de tout gâter; et

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il y a de certains esprits qu'il ne faut prendre qu'en biaisant ; des tempéraments ennemis de toute résistance ; des naturels rétifs, que la vérité fait cabrer, qui toujours se roidissent contre le droit chemin de la raison, et qu'on ne mène qu'en tournant où l'on veut les conduire. Faites semblant de consentir à ce qu'il veut, vous en viendrez mieux à vos fins.—

La Flèche : Il faut convenir que votre père animerait contre sa vilenie le plus posé homme du monde. Je n'ai pas, Dieu merci, les inclinations fort patibulaires ; et parmi mes confrères que je vois se mêler de beaucoup de petits commerces, je sais tirer adroitement mon épingle du jeu, et me démêler prudemment de toutes les galanteries qui sentent tant soit peu l'échelle ; mais, à vous dire vrai, il me donnerait par ses procédés des tentations de le voler, et je croirais, en le volant, faire une action méritoire.

MOLIÈRE—*L'Avare.*

2. *Marat :* Ami du peuple hier, je le suis aujourd'hui,
J'ai souffert, j'ai lutté, j'ai haï comme lui ;
Misère, oubli, dédain, hauteur patricienne,
Ses affronts sont les miens ; sa vengeance est la mienne.
Il le sait ; il défend celui qui le défend.
Or, je porterai loin son drapeau triomphant !
Il ne me suffit pas d'un changement de forme.
Au sein des profondeurs j'enfonce la réforme ;
Je veux, armé du sac, retourner les sillons ;
A l'ombre les habits ! au soleil les haillons !
Je veux que la misère écrase l'opulence,
Que le pauvre à son tour ait le droit d'insolence,
Qu'on tremble devant ceux qui manqueront de pain,
Et qu'ils aient leurs flatteurs, courtisans de la faim.
Chapeau bas, grands seigneurs, bourgeois et valetaille !
Vos maîtres vont passer : saluez la canaille !
— Oh ! ce sont des plaisirs lentement savourés,
Et qui compensent bien d'affronts dévorés,
Que cet abaissement d'une classe arrogante,
Se parant gauchement de la veste indigente,
S'exerçant aux jurons, et, chute sans grandeur,
Des cris qu'elle déteste exagérant l'ardeur.

PONSARD.

Translate into French :—

1. Is this your hat? Yes, it is. Are those your servants? Yes, they are. I hope to see you this day week. I have found nothing whatever. Whatever wealth you may have, you will never be happy unless you restrain your passions. Without application it is impossible to succeed in anything whatever. It is dark, I do not see clearly. Do not speak so low, speak louder so that you can be understood. I saw him soon re-appear. Neither prayers nor threats could move him. He was very near falling. He dares not come back. Do you deny that he is guilty? Wait till it gets less cold. I shall not go out before you are in. We have agreed on the price. Do you make use of spectacles? I have been here for three months. Do not delay sending him some money.

2. During the passage through the capital to his palace, the bells of every church were ringing and every street was lighted up. It was late, before he made his way through the shouting crowds to Kensington.—

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What a bewildering crowd of conjectures must have thronged upon his mind, as to the land which lay before him, covered with darkness.—From that time Montalto gradually assumed the appearance of a man bending under the weight of years. He walked with his head resting on one shoulder, leaning on a staff, and incessantly coughed as if about to expire.—The virtuous, the able, the brave felt that they no longer required to remain in obscurity; that democratic jealousy would not now be permitted to extinguish rising ability, financial imbecility to crush patriotic exertion, private cupidity to exhaust public resources, civil weakness to paralyse military valour.

GERMAN.—*Examiner, Professor Geisler*, Ph.D.

Translate into English :—

1. *Wallenstein :* Es ist entschieden, nun ist's gut — und schnell
Bin ich geheilt von allen Zweifelsqualen;
Die Brust ist wieder frei, der Geist ist hell,
Nacht muss es sein, wo Friedland's Sterne strahlen,
Mit zögerndem Entschluss, mit schwankendem Gemüth
Zog ich das Schwert, ich that's mit Widerstreben,
Da es in meine eigene Wahl noch war gegeben!
Nothwendigkeit ist da, der Zweifel flieht,
Jetzt fecht' ich für mein Haupt und für mein Leben.

Octavio : Kein Feind verfolgt Euch. Niemand will Euch übel.
Dem Herzog schreibt allein die Kränkung zu,
Die Ihr empfangen; deutlich ist die Absicht.
Losreissen wollt' er Euch von Eurem Kaiser—
Von Eurer Rache hofft' er zu erlangen,
Was Eure wohlbewährte Treu' ihn nimmer
Erwarten liess bei ruhiger Besinnung.
Zum blinden Werkzeug wollt' er Euch, zum Mittel
Verworf'ner Zwecke Euch verächtlich brauchen.
Er hat's erreicht. Zu gut nur glückt' es ihm,
Euch wegzulocken von dem guten Pfade,
Auf dem Ihr vierzig Jahre seid gewandelt.

SCHILLER—*Wallenstein's Tod.*

2. *Eckhof:* Der Gedanke, von der Bühne herab menschliche Grösse und menschliche Verbrechen in lebenstreuen Zügen wiederzugeben, das Laster und die Tugend zu malen, wie sie sind, begeisterte mich, aber die Gelegenheit, ihn auszuführen, fand sich nicht. Der Zufall spielte mich in einem Augenblicke, wo ich leichtsinnig die Schwermuth in einem Rausche zu vergessen suchte, preussischen Werbern in die Hände. Das dargebotene blanke Silber blendete; ich verlor meine goldene Freiheit. Seitdem trag' ich die Muskete. Die tausendmal erwachende Sehnsucht nach der Kunst, zu der ich den Beruf wie eine heilige Mahnung in mir fühle übertäubt jetzt die lärmende Trommel, der Trieb nach edlerer Menschendarstellung schnürt die Uniform zusammen, und in abgerichteter, unfreier Bewegung der Glieder wird auch wohl zuletzt der freie Wille und das Gefühl der menschlichen Wünsche sterben. Von diesem Schicksal erlöst den verkauften armen Soldaten nichts als der Tod.

GUTZKOW—*Zopf und Schwert.*

Translate into German :—

1. It is a fact not to be denied that no man has any claim to perfection. It is my duty to tell you that you are totally ignorant of the most important facts of history. Being poor, he had been neglected. The setting sun indicated that it would be useless pursuing the fugitives. Where have you made his acquaintance? The merchant stated that the money was false. Let everybody do his duty. He has two more children. The boy has no longer a father. I found myself in such a position as to observe all that went on around me. We went into a house from the windows of which we saw it. I have cut my finger. You need not complain of it. As I was going across one of the principal squares, I was followed by a little boy, who insisted on cleaning my boots.

2. As soon as Marius heard of these changes, he set sail from Africa and offered to serve under Cinna, who gladly accepted his proposal and named him Proconsul; but Marius refused all marks of honour. The sufferings and privations he had endured had exasperated his proud and haughty spirit almost to madness and nothing but the blood of his enemies could appease his resentment. He continued to wear a mean and humble dress and his hair and beard had remained unshorn from the day he had been driven out of Rome. After joining Cinna, Marius prosecuted the war with great vigour.

MIXED MATHEMATICS—HONORS.—*Examiner, Professor Curtis*, LL.D.

1. If three forces of 99 lbs., 100 lbs., and 101 lbs. respectively, act on a point at angles of 120°, prove that the magnitude of their resultant $=\sqrt{3}$ lbs., and that its inclination to the force of 100 lbs. is 90°.

2. Prove that x, the height from the ground of the centre of gravity of a pyramid consisting of four spheres of equal weight, the diameter of each of which is a inches, is given by the formula

$$x = \frac{a}{2} + \frac{a}{4}\sqrt{\frac{2}{3}}.$$

3. If a waggon weighing 2 tons, 14 cwt. rest upon an incline of 1 in 27, find the pressure on the road.

4. If a heterogeneous beam rest in equilibrio, with its extremities pressing each against one of two given inclined planes, which intersect in a horizontal line, find the pressures against the two planes—

(*a*) when both planes are smooth;

(*b*) when both planes are rough;

and determine its inclination to the horizon in the first case, and the limit to same in the second case.

5. A stone is thrown vertically down a cliff 300 feet in height, and reaches the base in 4 seconds; prove that the velocity of projection was 11 feet per second.

6. If two weights P,P′, in motion, rest upon planes inclined to the horizon at angles i,i' respectively, and are connected by a string passing over the intersection of the two planes, prove that T, the tension of the string, is given by the equations—

$$T = \frac{PP'}{P+P'}(\sin i + \sin i'),$$

$$\text{or, } T = \frac{PP'}{P+P'}\left(\sin i + \sin i' + \mu(\cos i' - \cos \iota)\right);$$

according as the planes are smooth, or rough.

Appendix F.

Sessional Examinations.

7. Find the index of refraction from water into glass, the indices of refraction for water and glass, respectively, being $\frac{4}{3}$ and $\frac{3}{2}$.

8. Prove that the focal length of each of the concave lenses is positive, and that of each of the convex lenses negative, and explain the meaning of this difference of signs.

9. The distances of a luminous point and its conjugate from a lens being 10 inches and 20 inches respectively, and at the same side of the lens; find the focal length and the nature of the lens.

10. Determine the centre of pressure of—

(*a*) a parallelogram, of which one diagonal is horizontal;
(*b*) a parallelogram, two sides of which are horizontal;
(*c*) a regular hexagon, of which two sides are horizontal.

MIXED MATHEMATICS—PASS.—*Examiner*, *Professor Curtis*, LL.D.

1. Calculate the magnitude of the resultant of two forces of 60 lbs. and 144 lbs. acting at a point and inclined to each other;—

(*a*) at a right angle.
(*b*) at an angle of 60°.
(*c*) at an angle of 45°.
(*d*) at an angle of 30°.

2. The larger of two parallel forces is 70 lbs., their resultant is 40 lbs., acting at a distance of 18 inches from the force of 70 lbs., determine the smaller component, and the distance between the components.

3. Determine the centre of gravity—

(*a*) of a triangular plate;
(*b*) of a triangular frame made of homogeneous wire.

4. Deduce the condition of equilibrium—

(*a*) in the lever;
(*b*) in the simple screw;
(*c*) in the compound wheel and axle.

5. A ball acted on by gravity is projected vertically upwards with a velocity of 80 feet per second; find the greatest height to which it will rise, and the interval between starting from, and returning to, its initial position.

6. Describe the *Bramah*, or *hydraulic*, press.

7. Explain how the specific gravity of a solid body may be found by the aid of a balance.

8. If a cubic foot of oak, when floating in water, be immersed so that its lower horizontal surface is 9 inches below the surface of the water; determine its weight and specific gravity.

9. Determine the size of the least plane reflector in which a person could see his complete image.

10. Determine the principal focus of a spherical reflector.

ENGINEERING.—*Examiner*, *Professor Townsend*, M.A.

1. Find the length of a line on the 6-inch Ordnance map, whose square represents an Irish acre.

2. The radius of a curve is $\frac{1}{8}$th of a mile, the first odd distance 47 links, the length of the chord 100 links; calculate the first three offsets.

3. Prove the prismoidal formula, and the expression for the area of the slopes.

4. Bidder's tabular numbers corresponding to two given heights are black = 799 red = 44; find Macneill's tabular numbers, *second series*, the ratio of slopes being $1\frac{1}{2}$ to 1. *Appendix F.* Sessional Examinations.

5. The sides of a triangle are 850, 586, 931 links; calculate the contents in Irish acres.

6. Describe some of the leading features of the Norman style of architecture, and sketch some of the ornaments.

7. Prove the equation of the planimeter.

8. Describe the adjustments of the instrument set before you.

9. Read the verniers set before you.

10. Given the elevations of the top of a tower, and the distance between the points of observation. If a small error is made in one of the angles, find corresponding error in the height of the tower.

THIRD YEAR.

MIXED MATHEMATICS—HONORS.—*Examiner, Professor Curtis,* LL.D.

1. If a system of forces situated in one plane be such that the algebraic sum of their moments taken with regard to each of three points in the plane, but not situated on one straight line, is zero, prove that the system, if acting on a rigid body, is in equilibrium.

2. Find the centre of gravity of the portion cut off from a solid cone by two parallel planes.

3. A chain hangs over two smooth points which are in a horizontal line and at a given distance apart; find the least length of the chain that equilibrium may be possible.

4. A body is projected vertically from the surface of the earth with a velocity V; prove that the height to which it will ascend $=\frac{2g\,r^2}{2gr-V^2}$, where r is the radius of the earth.

5. Find the whole time of describing an ellipse under the action of a force directed to the centre.

6. Calculate the moment of inertia of a sphere with regard to a diameter.

7. Find the centre of pressure—

(*a*) of a parallelogram sunk in any way;
(*b*) of a circle sunk in any way.

8. Show that the apparent orbit of a planet A relatively to a planet B is the same as that of B relatively to A, but turned in its plane through two right angles.

9. Determine the form of the clepsydra, and show how it may be constructed by the aid of a parabola.

10. Determine the caustic by reflexion of a cycloid, the incident rays being perpendicular to its base.

EXPERIMENTAL PHYSICS—HONOR CLASS.

Examiner, Professor Curtis, LL.D.

1. How may the specific gravity of a solid be found by means of the specific gravity bottle?

2. Compare the overtones due to the transverse vibrations of a stretched string with those of an organ pipe.

Appendix F.

Sessional Examinations.

3. What fundamental distinction exists between *luminous* vibrations and those of *sound*?

4. By what experiment can the coefficient of *absolute* expansion of mercury be found?

5. Describe Faraday's apparatus for comparing the *capacity* of condensers.

6. Mention some electrical experiments, which confirm the two-fluid theory.

7. How may a dip needle be employed to find the magnetic meridian and the changes in the horizontal intensity of the earth's magnetic force?

8. If the *magnetic dip*, θ, be sought by observing θ_1, θ_2, the two values shown by a dip needle magnetised to saturation, with the polarity in one case the reverse of that in the other; prove that—

$$\tan\theta = \tfrac{1}{2}(\tan\theta_1 + \tan\theta_2).$$

9. A negatively charged body being given, how would you charge a double gold-leaf electroscope—

(*a*.) With *positive* electricity?
(*b*.) With *negative* electricity?

10. Deduce, on the material theory of light, the laws of reflexion and of refraction. Establish the same laws, on the undulatory theory. How do the results on the two theories differ?

APPLIED NATURAL PHILOSOPHY.—*Examiner, Professor Curtis*, LL.D.

1. The surface of a pond measures 10 acres; in the course of a period of dry weather the surface falls 1·5 inches by evaporation; calculate the weight of the water withdrawn.

2. There is a mine with three shafts, which are respectively 300, 450, and 500 feet deep; it is required to raise from them respectively 80, 60, and 40 cubic feet of water per minute; calculate the horse-power of the engine which will do the work, its modulus being ·7.

3. A cube of granite, *s.g.*=2·625, a side of which is 6 feet, is raised on one edge so as to topple over; calculate the work expended.

4. Calculate the work expended in sliding a weight of 125 lbs. up a rough inclined plane, whose base and height are respectively 12 feet and 7 feet, the co-efficient of friction being ·47.

5. A train has a velocity of 45 feet per second when the steam is shut off; how far will it move on a level rail whose friction is 8 lbs. per ton? how far on an incline of 1 in 100, all else being the same?

6. Determine the position of the crank in a high pressure engine when the velocity of the fly-wheel is maximum or minimum—

(*a*) if the engine be single acting.
(*b*) if the engine be double acting.

7. What is the advantage of Poncelet's water-wheel over other undershot wheels?

8. In order that two series of teeth traced on two pitch circles should work together, it is necessary and sufficient that both series should be roulette curves generated by the same point on a curve rolling consecutively on the two pitch circles; show that involute teeth are included in this rule, and determine the generating curve in this case.

9. Investigate the maximum pressure capable of being exerted against a vertical wall by a quantity of earth, which is elevated above the level of the top of the wall, and the surface of which is horizontal, except where it joins the wall, the slope there being the natural one.

Appendix F.

Sessional Examinations.

CHEMISTRY.—*Examiner, Professor Rowney,* Ph.D.

1. Give the general characters of chemical affinity.

2. Describe the method of obtaining, and the properties of, the metal aluminum.

3. How is chlorine gas prepared, and what are its chief properties?

4. What is the difference in composition between cast-iron, wrought-iron, and steel.

5. Give a description of the atmosphere, its properties, and uses.

6. Give an explanation of the terms element and compound radical.

7. Give the composition of ammonium nitrate, and state what decomposition takes place when that salt is heated in a flask.

8. How would you prepare phosphorus from bone earth?

9. Give an explanation of the terms atoms, equivalent, and molecules.

10. Give the composition and properties of marsh gas.

11. How is olefiant gas prepared? and what is the action of chlorine upon it?

12. Give a description of the different varieties of sugar.

MODERN HISTORY.—*Examiner, The President.*

1. "The House of Stuart no more came in by a clear title than the House of Brunswick."—Prove this proposition.

2. Trace the descent of Queen Victoria from James I.

3. Summarize the causes of the war between Charles I. and the Parliament.

4. Describe the foreign policy of Cromwell.

5. What was the Act of Settlement in Ireland?

What was the Act of Security in Scotland?

6. What causes led to the abdication of James II.?

7. Give the dates of the following Battles, and name the Commanders in each:—The Yellow Ford, Benburb, Boyne, Aughrim.

8. Give the date and state the leading provisions of the Treaty of Limerick.

9. Give an account of the proceedings against Oxford and Bolingbroke in 1715.—How did they terminate?

10. It has been said that, within the short period 1757–9, "three victories determined for ages to come the destinies of the world."—Explain this statement.

11. "Wilkes became the chief instrument in bringing about three of the greatest advances our constitution has ever made."—Explain this statement.

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12. What are the claims of Henry IV. to the title of "The Great"?

13. What were the leading aims of the policy of Richelieu?

14. Give a brief account of the War of the Fronde?

15. What was the War of the Right of Devolution?

16. State the leading causes of the French Revolution?

17. What were the Revolutions of 13th Vendémiaire and 18th Brumaire?

18. What causes led to the Peninsular War, and to Napoleon's Invasion of Russia?

19. Give the dates of the following Battles, and name the Commanders:—Ivry, Rocroi, La Hogue, Blenheim, Fontenoy, Valmy, Asperne, Salamanca, Quatre Bras.

Appendix F.

Sessional Examinations.

20. What Wars were concluded by the following Treaties?—Westphalia, Utrecht, Paris, Versailles, Amiens?

Natural History.—*Examiner, Professor Melville,* M.D.

BOTANY.

1. Describe in technical terms the fruits of the fig and mulberry.
2. State the characters of the sub-orders of the *Rosaceæ.*
3. Describe the phenomena of impregnation in the *Angiospermata.*

ZOOLOGY.

1. Describe the structure of the mouth in the *Lepidoptera.*
2. Define the order *Ganoidei.*
3. State the characters of the sub-orders of the *Ungulata.*

Mineralogy and Geology.—*Examiner, Professor King,* Sc.D.

1. (*a.*) Write out in a column a table of the rock systems in their chronological order. (*b.*) Name in a parallel column any of the subdivisions or formations of the systems; (*c.*) mention in another parallel column some of the fossils characteristic of each system.

2. (*a.*) Describe Granite, also its origin; (*b.*) Porphyry, &c.; (*c.*) Conglomerate, &c.; (*d.*) Travertine, &c.; Mica schist, &c.

3. (*a.*) Describe Quartz; (*b.*) Calcite; (*c.*) Hornblende; (*d.*) Galena.

4. (*a.*) Describe an Ammonite; (*b.*) an Orthoceros; (*c.*) a Spirifer; (*d.*) a Productus.

Engineering.—*Examiner, Professor Townsend,* M.A.

1. Describe the manufacture of steel by the Bessemer process; mention all the ingredients used, and their effects; and give the tensile strength, compressive strength of cast-iron and wrought-iron in tons per square inch.

2. Describe the manufacture of Portland cement, the tests of its goodness, and compare the relative advantages of Portland and Roman.

3. Describe the composition and manufacture of asphalt, and the manner of constructing a road with this material.

4. Draw a section of a pan watercloset, and show the best mode of ventilating a soil pipe.

5. Find the thickness of a boiler necessary to resist a bursting pressure of 800 lbs. per square inch, the tenacity of single rivetted boiler plate being 34,000 lbs., and the diameter 4 feet.

6. Calculate the number of gallons discharged per minute from a pipe 18 inches diameter, the fall being 10 feet per mile.

7. A rectangular plate is 5×4, and upper side 10 feet below the surface. Calculate the depth of the centre of pressure.

8. Show how to represent the sheering strains in a bridge resulting from a uniform load and passing train.

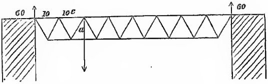
9. Show geometrically how to represent the strains in a roof from a uniform load.

10. In the annexed form of girder, 80 feet long, with 8 bays and equilateral triangles, calculate the maximum stress in diagonal (*a*) resulting from a permanent load of $\frac{1}{2}$ a ton and a passing load of 1 ton per foot run.

Appendix F.

Sessional Examinations.

With the same data calculate the stress in bay *c.*



SURGERY.—*Examiner, Professor Browne,* M.D.

1. What are the symptoms of concussion of the brain? Contrast them with those of compression, without fracture, of the skull; in what way may either terminate fatally, and from what cause?

2. How does the tissue, which is the seat of inflammation, influence the character of it, both in its course and termination? Give examples of this fact.

3. What are the means of arresting hemorrhage in an incised wound of the thigh; also in a lacerated wound of the same limb in which secondary hemorrhage ensues.

4. In a lacerated wound of a limb, what are the symptoms which would call for immediate amputation, and what are those circumstances which, if present, would induce you to delay and afterwards have recourse to secondary amputation? Which operation is attended with the greater success?

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